



Appendix C

Synchro Analysis **Future 2024 Build Conditions**



Intersection Capacity Analysis
1: Merrick Road & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY AM PEAK HOUR

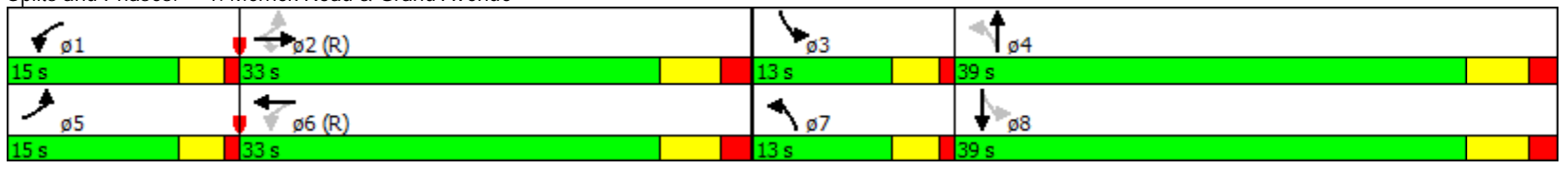
	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↖	↖	↑↑		↖	↑↑		↖	↑↑	
Volume (vph)	64	431	119	169	688	83	186	602	159	54	417	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	9	11	11	10	10	11	10	10	10
Storage Length (ft)	200		100	100		80	150		0	150		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.98		1.00			0.99			1.00	
Frt			0.850		0.981			0.967			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1318	2991	1384	1341	2920	0	1472	2476	0	1417	2298	0
Flt Permitted	0.164			0.301			0.332			0.191		
Satd. Flow (perm)	228	2991	1351	425	2920	0	514	2476	0	285	2298	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131		15			38			25	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		687			922			603			228	
Travel Time (s)		15.6			21.0			13.7			5.2	
Confl. Peds. (#/hr)			8			6			17			9
Peak Hour Factor	0.94	0.85	0.84	0.71	0.93	0.78	0.88	0.88	0.83	0.68	0.90	0.85
Heavy Vehicles (%)	15%	5%	5%	9%	5%	7%	3%	6%	5%	7%	15%	17%
Parking (#/hr)								20			20	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	507	142	238	846	0	211	876	0	79	557	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4			8		
Total Split (s)	15.0	33.0	33.0	15.0	33.0		13.0	39.0		13.0	39.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	37.5	27.0	27.0	42.3	31.5		45.2	36.0		43.0	33.0	
Actuated g/C Ratio	0.38	0.27	0.27	0.42	0.32		0.45	0.36		0.43	0.33	
v/c Ratio	0.38	0.63	0.31	0.85	0.91		0.66	0.96		0.37	0.72	
Control Delay	23.3	36.2	8.3	50.0	49.0		28.6	53.0		19.7	34.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.3	36.2	8.3	50.0	49.0		28.6	53.0		19.7	34.3	
LOS	C	D	A	D	D		C	D		B	C	
Approach Delay		29.4			49.3			48.3			32.5	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	25	149	5	101	275		79	-306		27	155	
Queue Length 95th (ft)	52	191	43	#126	#434		127	#419		40	220	
Internal Link Dist (ft)		607			842			523			148	
Turn Bay Length (ft)	200		100	100			150			150		
Base Capacity (vph)	211	807	460	280	929		318	916		227	775	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.32	0.63	0.31	0.85	0.91		0.66	0.96		0.35	0.72	

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 59.5 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 41.9
 Intersection Capacity Utilization 73.3%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Merrick Road & Grand Avenue



Intersection Capacity Analysis
2: Grand Avenue & Prospect Street

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY AM PEAK HOUR

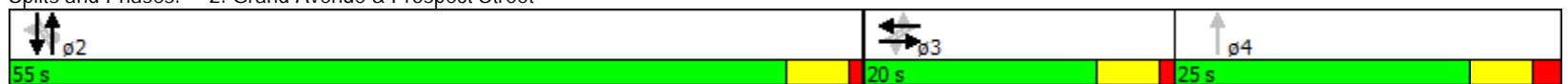


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4
Lane Configurations		↔			↔		↗	↖		↗	↖		
Volume (vph)	42	5	20	1	0	27	3	687	38	39	527	47	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	16	10	12	12	12	12	12	12	12	12	12	
Storage Length (ft)	0		0	0		0	250		0	250		0	
Storage Lanes	0		0	0		0	1		0	1		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		0.98			0.96		1.00	1.00		0.99	1.00		
Frt		0.970			0.875			0.988			0.982		
Flt Protected		0.966			0.996		0.950			0.950			
Satd. Flow (prot)	0	1766	0	0	1408	0	1547	1261	0	1477	1198	0	
Flt Permitted		0.756			0.980		0.340			0.280			
Satd. Flow (perm)	0	1366	0	0	1385	0	553	1261	0	433	1198	0	
Right Turn on Red			No			Yes			Yes			Yes	
Satd. Flow (RTOR)					87			13			10		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		602			588			479			1170		
Travel Time (s)		13.7			13.4			10.9			26.6		
Confl. Peds. (#/hr)	5		4	4		5	5		21	21		5	
Peak Hour Factor	0.54	0.63	0.79	0.25	0.25	0.52	0.38	0.97	0.60	0.66	0.90	0.59	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	7%	5%	10%	12%	10%	
Parking (#/hr)								20			20		
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	111	0	0	56	0	8	771	0	59	666	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		3			3			2			2		4
Permitted Phases	3			3			2	4		2			
Total Split (s)	20.0	20.0		20.0	20.0		55.0	55.0		55.0	55.0		25.0
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0		
Act Effct Green (s)		13.4			13.4		50.0	50.0		50.0	50.0		
Actuated g/C Ratio		0.18			0.18		0.68	0.68		0.68	0.68		
v/c Ratio		0.45			0.17		0.02	0.89		0.20	0.81		
Control Delay		33.1			4.2		4.3	25.6		6.5	19.0		
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0		
Total Delay		33.1			4.2		4.3	25.6		6.5	19.0		
LOS		C			A		A	C		A	B		
Approach Delay		33.1			4.2			25.3			18.0		
Approach LOS		C			A			C			B		
Queue Length 50th (ft)		45			0		1	230		8	174		
Queue Length 95th (ft)		61			0		2	#549		16	#456		
Internal Link Dist (ft)		522			508			399			1090		
Turn Bay Length (ft)							250			250			
Base Capacity (vph)		279			352		376	863		295	819		
Starvation Cap Reductn		0			0		0	0		0	0		
Spillback Cap Reductn		0			0		0	0		0	0		
Storage Cap Reductn		0			0		0	0		0	0		
Reduced v/c Ratio		0.40			0.16		0.02	0.89		0.20	0.81		

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 73.4
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 21.9
 Intersection LOS: C
 Intersection Capacity Utilization 62.2%
 ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Grand Avenue & Prospect Street



Intersection Capacity Analysis
3: Sunrise Highway & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY AM PEAK HOUR

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Volume (vph)	124	1519	40	176	1781	66	104	508	122	82	433	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	10	10	10	10	10	10
Storage Length (ft)	300		0	400		0	250		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.996			0.994			0.969			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1464	4391	0	1464	4190	0	1501	2716	0	1366	2636	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1464	4391	0	1464	4190	0	1501	2716	0	1366	2636	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)		3			5							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1155			1126			302			303	
Travel Time (s)		26.3			25.6			6.9			6.9	
Confl. Peds. (#/hr)			6			2			34			10
Peak Hour Factor	0.91	0.95	0.84	0.82	0.98	0.91	0.94	0.96	0.88	0.88	0.95	0.90
Heavy Vehicles (%)	11%	6%	0%	11%	11%	3%	1%	7%	7%	11%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	1	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	1647	0	215	1890	0	111	668	0	93	600	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Total Split (s)	27.0	60.0		27.0	60.0		15.0	43.0		15.0	43.0	
Total Lost Time (s)	5.0	8.4		5.0	8.4		5.0	7.0		5.0	7.0	
Act Effct Green (s)	17.9	51.6		22.0	55.7		10.0	36.0		10.0	36.0	
Actuated g/C Ratio	0.12	0.36		0.15	0.38		0.07	0.25		0.07	0.25	
v/c Ratio	0.75	1.05		0.97	1.17		1.08	0.99		0.99	0.92	
Control Delay	85.7	82.8		113.1	124.4		172.0	86.4		155.6	73.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	85.7	82.8		113.1	124.4		172.0	86.4		155.6	73.0	
LOS	F	F		F	F		F	F		F	E	
Approach Delay		83.1			123.2			98.6			84.1	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	125	~620		205	~787		~116	333		89	292	
Queue Length 95th (ft)	198	#719		#321	#918		#245	#468		#204	#405	
Internal Link Dist (ft)		1075			1046			222			223	
Turn Bay Length (ft)	300			400			250			250		
Base Capacity (vph)	222	1564		222	1612		103	674		94	654	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.61	1.05		0.97	1.17		1.08	0.99		0.99	0.92	

Intersection Summary

Area Type: CBD
 Cycle Length: 145
 Actuated Cycle Length: 145
 Offset: 138 (95%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.17
 Intersection Signal Delay: 101.2
 Intersection LOS: F
 Intersection Capacity Utilization 100.7%
 ICU Level of Service G
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Sunrise Highway & Grand Avenue



Intersection Capacity Analysis
4: Grand Avenue & Baldwin Avenue/Miller Place

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY AM PEAK HOUR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↖	↗		↖	↗	
Volume (vph)	24	11	27	6	7	4	14	689	11	12	765	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99		1.00	1.00		0.99	1.00	
Frt		0.947			0.973			0.997			0.988	
Flt Protected		0.979			0.985		0.950			0.950		
Satd. Flow (prot)	0	1536	0	0	1591	0	1547	1348	0	1547	1312	0
Flt Permitted		0.845			0.873		0.195			0.294		
Satd. Flow (perm)	0	1312	0	0	1409	0	316	1348	0	474	1312	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			8			2			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		721			584			655			513	
Travel Time (s)		16.4			13.3			14.9			11.7	
Confl. Peds. (#/hr)	10		4	1		4	26		40	40		26
Peak Hour Factor	0.64	0.63	0.78	0.50	0.35	0.50	0.65	0.96	0.63	0.69	0.91	0.63
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	7%	5%	5%	8%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	1	0	0	3	0
Parking (#/hr)								10			10	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	90	0	0	40	0	22	735	0	17	914	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			2			1			1	
Permitted Phases	3			2			1			1		
Total Split (s)	22.5	22.5		11.5	11.5		56.0	56.0		56.0	56.0	
Total Lost Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Act Effct Green (s)		10.2			6.0		65.3	65.3		65.3	65.3	
Actuated g/C Ratio		0.11			0.07		0.73	0.73		0.73	0.73	
v/c Ratio		0.51			0.40		0.10	0.75		0.05	0.96	
Control Delay		35.0			45.9		9.3	19.4		7.1	31.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		35.0			45.9		9.3	19.4		7.1	31.5	
LOS		C			D		A	B		A	C	
Approach Delay		35.0			45.9			19.1			31.1	
Approach LOS		C			D			B			C	
Queue Length 50th (ft)		32			18		4	290		1	-571	
Queue Length 95th (ft)		44			16		13	#645		m4	#878	
Internal Link Dist (ft)		641			504			575			433	
Turn Bay Length (ft)							200			200		
Base Capacity (vph)		272			101		229	978		343	953	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.33			0.40		0.10	0.75		0.05	0.96	

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 26.6
 Intersection Capacity Utilization 63.8%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Grand Avenue & Baldwin Avenue/Miller Place



Intersection Capacity Analysis
5: Milburn Avenue & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY AM PEAK HOUR

	↑	↶	↷	↓	↶	↷
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↑↑			↑↑		↶
Volume (vph)	772	1	0	973	0	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	11	12	12
Storage Length (ft)		0	150		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor	1.00					
Frt	0.999					0.865
Flt Protected						
Satd. Flow (prot)	2806	0	0	2626	0	1409
Flt Permitted						
Satd. Flow (perm)	2806	0	0	2626	0	1409
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	30			30	30	
Link Distance (ft)	327			379	359	
Travel Time (s)	7.4			8.6	8.2	
Confl. Peds. (#/hr)		17	17			1
Peak Hour Factor	0.94	0.25	0.88	0.98	0.92	0.93
Heavy Vehicles (%)	7%	4%	5%	7%	2%	5%
Bus Blockages (#/hr)	0	0	0	3	0	0
Parking (#/hr)	10			20		
Shared Lane Traffic (%)						
Lane Group Flow (vph)	825	0	0	993	0	304
Turn Type	NA			NA		Prot
Protected Phases	2			6		8
Permitted Phases				2		
Total Split (s)	59.0			59.0		31.0
Total Lost Time (s)	6.0			6.0		6.0
Act Effct Green (s)	54.0			54.0		24.0
Actuated g/C Ratio	0.60			0.60		0.27
v/c Ratio	0.49			0.63		0.81
Control Delay	10.4			6.7		48.6
Queue Delay	0.6			0.2		0.0
Total Delay	11.0			6.9		48.6
LOS	B			A		D
Approach Delay	11.0			6.9		
Approach LOS	B			A		
Queue Length 50th (ft)	124			79		159
Queue Length 95th (ft)	84			49		#288
Internal Link Dist (ft)	247			299	279	
Turn Bay Length (ft)						
Base Capacity (vph)	1704			1594		402
Starvation Cap Reductn	472			130		0
Spillback Cap Reductn	73			35		0
Storage Cap Reductn	0			0		0
Reduced v/c Ratio	0.67			0.68		0.76

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBSB and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 14.5 Intersection LOS: B
 Intersection Capacity Utilization 53.3% ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Milburn Avenue & Grand Avenue



Intersection Capacity Analysis
6: Grand Avenue & Lorenz Avenue

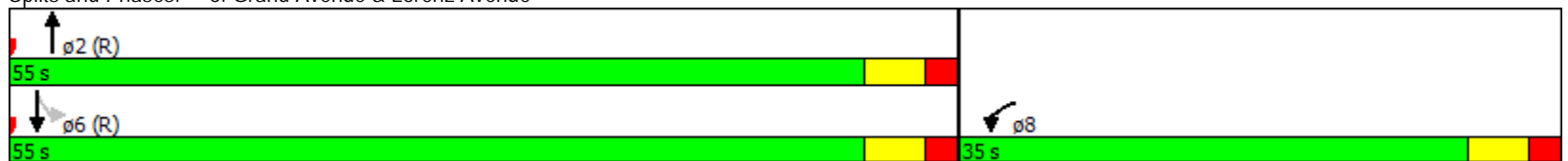
2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY AM PEAK HOUR

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↑↑			↗↖
Volume (vph)	13	10	1046	8	7	1051
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99		1.00			1.00
Frt	0.931		0.998			
Flt Protected	0.976					0.999
Satd. Flow (prot)	1512	0	2630	0	0	2639
Flt Permitted	0.976					0.937
Satd. Flow (perm)	1512	0	2630	0	0	2475
Right Turn on Red		No		Yes		
Satd. Flow (RTOR)			2			
Link Speed (mph)	30		30			30
Link Distance (ft)	918		379			300
Travel Time (s)	20.9		8.6			6.8
Confl. Peds. (#/hr)		2		35	35	
Peak Hour Factor	0.75	0.56	0.83	0.50	0.58	0.92
Heavy Vehicles (%)	2%	2%	7%	6%	6%	7%
Bus Blockages (#/hr)	0	0	1	0	0	0
Parking (#/hr)			20			20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	1276	0	0	1154
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Total Split (s)	35.0		55.0		55.0	55.0
Total Lost Time (s)	5.5		5.5			5.5
Act Effct Green (s)	9.3		76.6			76.6
Actuated g/C Ratio	0.10		0.85			0.85
v/c Ratio	0.23		0.57			0.55
Control Delay	38.3		4.5			1.5
Queue Delay	0.0		0.0			0.2
Total Delay	38.3		4.5			1.7
LOS	D		A			A
Approach Delay	38.3		4.5			1.7
Approach LOS	D		A			A
Queue Length 50th (ft)	19		95			26
Queue Length 95th (ft)	35		142			33
Internal Link Dist (ft)	838		299			220
Turn Bay Length (ft)						
Base Capacity (vph)	495		2238			2106
Starvation Cap Reductn	0		0			235
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.07		0.57			0.62

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 9 (10%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 3.6
 Intersection Capacity Utilization 52.5%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 6: Grand Avenue & Lorenz Avenue



Intersection Capacity Analysis
7: Seaman Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY AM PEAK HOUR



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖		↗	↑↑	↑↑	
Volume (vph)	140	58	50	970	981	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99		1.00		0.99	
Frt	0.960				0.980	
Flt Protected	0.966		0.950			
Satd. Flow (prot)	1507	0	1298	2617	2706	0
Flt Permitted	0.966		0.189			
Satd. Flow (perm)	1505	0	257	2617	2706	0
Right Turn on Red		No				Yes
Satd. Flow (RTOR)					27	
Link Speed (mph)	30			30	30	
Link Distance (ft)	655			360	196	
Travel Time (s)	14.9			8.2	4.5	
Confl. Peds. (#/hr)	1	7	19			19
Peak Hour Factor	0.80	0.79	0.65	0.89	0.94	0.72
Heavy Vehicles (%)	4%	6%	21%	8%	7%	11%
Parking (#/hr)				20	0	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	248	0	77	1090	1201	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Total Split (s)	39.0		51.0	51.0	51.0	
Total Lost Time (s)	5.5		5.5	5.5	5.5	
Act Effct Green (s)	20.2		58.8	58.8	58.8	
Actuated g/C Ratio	0.22		0.65	0.65	0.65	
v/c Ratio	0.73		0.46	0.64	0.68	
Control Delay	44.6		15.4	8.6	9.2	
Queue Delay	0.6		0.0	0.3	0.2	
Total Delay	45.1		15.4	9.0	9.4	
LOS	D		B	A	A	
Approach Delay	45.1			9.4	9.4	
Approach LOS	D			A	A	
Queue Length 50th (ft)	131		20	148	115	
Queue Length 95th (ft)	165		18	112	m182	
Internal Link Dist (ft)	575			280	116	
Turn Bay Length (ft)			200			
Base Capacity (vph)	560		167	1708	1776	
Starvation Cap Reductn	0		0	185	100	
Spillback Cap Reductn	96		0	53	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.53		0.46	0.72	0.72	

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 12.8
 Intersection LOS: B
 Intersection Capacity Utilization 68.9%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Seaman Avenue



Intersection Capacity Analysis
8: Seaman Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY AM PEAK HOUR

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↑		↘	↑
Volume (vph)	269	81	861	257	61	799
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor	1.00		0.96		0.99	
Frt	0.970		0.954			
Flt Protected	0.963				0.950	
Satd. Flow (prot)	1442	0	2408	0	1510	2642
Flt Permitted	0.963				0.137	
Satd. Flow (perm)	1442	0	2408	0	216	2642
Right Turn on Red		No		Yes		
Satd. Flow (RTOR)			131			
Link Speed (mph)	30		30			30
Link Distance (ft)	767		196			252
Travel Time (s)	17.4		4.5			5.7
Confl. Peds. (#/hr)		2		48	48	
Peak Hour Factor	0.72	0.76	0.95	0.65	0.84	0.91
Heavy Vehicles (%)	12%	5%	8%	7%	4%	7%
Parking (#/hr)			20			20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	481	0	1301	0	73	878
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Total Split (s)	32.0		58.0		58.0	58.0
Total Lost Time (s)	5.5		5.5		5.5	5.5
Act Effct Green (s)	27.7		51.3		51.3	51.3
Actuated g/C Ratio	0.31		0.57		0.57	0.57
v/c Ratio	1.09		0.91		0.59	0.58
Control Delay	100.4		20.1		29.7	10.2
Queue Delay	6.8		1.0		0.0	0.3
Total Delay	107.2		21.2		29.7	10.5
LOS	F		C		C	B
Approach Delay	107.2		21.2			12.0
Approach LOS	F		C			B
Queue Length 50th (ft)	~321		60		34	212
Queue Length 95th (ft)	#356		#463		#90	61
Internal Link Dist (ft)	687		116			172
Turn Bay Length (ft)					100	
Base Capacity (vph)	443		1459		126	1541
Starvation Cap Reductn	0		8		0	187
Spillback Cap Reductn	62		43		0	125
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	1.26		0.92		0.58	0.65

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 79 (88%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 33.1
 Intersection Capacity Utilization 87.6%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

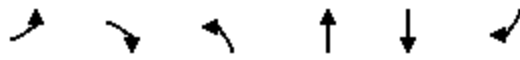
~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 8: Seaman Avenue



Intersection Capacity Analysis
 9: St Lukes Place & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
 WEEKDAY AM PEAK HOUR



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖		↗	↑↑	↑↑	
Volume (vph)	82	49	42	984	810	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0	75			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99		1.00		1.00	
Frt	0.948				0.986	
Flt Protected	0.970		0.950			
Satd. Flow (prot)	1531	0	1496	2642	2601	0
Flt Permitted	0.970		0.284			
Satd. Flow (perm)	1524	0	446	2642	2601	0
Right Turn on Red		No				Yes
Satd. Flow (RTOR)					18	
Link Speed (mph)	30			30	30	
Link Distance (ft)	678			252	852	
Travel Time (s)	15.4			5.7	19.4	
Confl. Peds. (#/hr)	6	4	16			16
Peak Hour Factor	0.80	0.77	0.77	0.89	0.95	0.74
Heavy Vehicles (%)	2%	2%	5%	7%	7%	5%
Parking (#/hr)				20	20	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	166	0	55	1106	938	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Total Split (s)	35.0		55.0	55.0	55.0	
Total Lost Time (s)	5.5		5.5	5.5	5.5	
Act Effct Green (s)	15.1		63.9	63.9	63.9	
Actuated g/C Ratio	0.17		0.71	0.71	0.71	
v/c Ratio	0.65		0.17	0.59	0.51	
Control Delay	46.2		3.9	4.6	8.6	
Queue Delay	0.0		0.0	1.7	0.2	
Total Delay	46.2		3.9	6.4	8.8	
LOS	D		A	A	A	
Approach Delay	46.2			6.2	8.8	
Approach LOS	D			A	A	
Queue Length 50th (ft)	89		5	69	37	
Queue Length 95th (ft)	125		m6	m90	m294	
Internal Link Dist (ft)	598			172	772	
Turn Bay Length (ft)			75			
Base Capacity (vph)	501		316	1876	1853	
Starvation Cap Reductn	0		0	563	0	
Spillback Cap Reductn	0		0	0	238	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.33		0.17	0.84	0.58	

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 4 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 10.2
 Intersection Capacity Utilization 57.5%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: St Lukes Place & Grand Avenue



Intersection Capacity Analysis
10: Grand Avenue & High School Drive

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY AM PEAK HOUR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Volume (vph)	3	0	2	132	0	138	4	791	206	155	754	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	150		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.96			0.92		0.97	0.99			1.00	
Frt		0.932			0.923			0.965			0.999	
Flt Protected		0.976			0.979		0.950			0.950		
Satd. Flow (prot)	0	1508	0	0	1403	0	1593	2810	0	1504	2891	0
Flt Permitted		0.862			0.858		0.341			0.950		
Satd. Flow (perm)	0	1299	0	0	1224	0	556	2810	0	1504	2891	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		85			85			51			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		564			861			852			745	
Travel Time (s)		12.8			19.6			19.4			16.9	
Confl. Peds. (#/hr)	106		9	9		106	66		8			66
Peak Hour Factor	0.75	0.92	0.50	0.81	0.92	0.63	0.50	0.80	0.69	0.51	0.92	0.25
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	6%	8%	8%	7%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	7	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	0	0	382	0	8	1288	0	304	824	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6				6	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Lost Time (s)		6.0			6.0		6.0	6.0		4.0	6.0	
Act Effct Green (s)		24.0			24.0		34.0	34.0		16.0	54.0	
Actuated g/C Ratio		0.27			0.27		0.38	0.38		0.18	0.60	
v/c Ratio		0.02			0.98		0.04	1.18		1.14	0.47	
Control Delay		0.0			69.9		23.5	119.7		133.9	11.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.0			69.9		23.5	119.7		133.9	11.2	
LOS		A			E		C	F		F	B	
Approach Delay		0.0			69.9			119.1			44.3	
Approach LOS		A			E			F			D	
Queue Length 50th (ft)		0			175		3	-468		-204	126	
Queue Length 95th (ft)		0			#362		m7	#501		140	170	
Internal Link Dist (ft)		484			781			772			665	
Turn Bay Length (ft)							150			200		
Base Capacity (vph)		408			388		210	1093		267	1735	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.02			0.98		0.04	1.18		1.14	0.47	

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 63 (70%), Referenced to phase 6:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.18
 Intersection Signal Delay: 82.1
 Intersection Capacity Utilization 77.8%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service D

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Grand Avenue & High School Drive



Intersection Capacity Analysis
11: Grand Avenue & Stowe Avenue

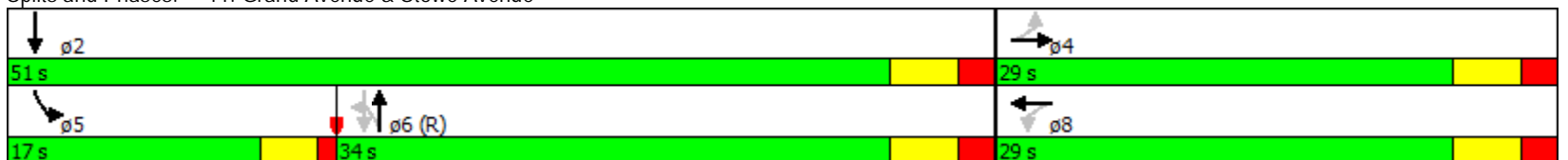
2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY AM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Volume (vph)	20	7	34	88	4	40	83	1004	34	27	926	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	150		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		1.00	1.00			1.00	
Frt		0.929			0.960			0.995			0.999	
Flt Protected		0.982			0.966		0.950			0.950		
Satd. Flow (prot)	0	1512	0	0	2942	0	1481	2944	0	1481	2960	0
Flt Permitted		0.791			0.757		0.293			0.950		
Satd. Flow (perm)	0	1217	0	0	2292	0	455	2944	0	1481	2960	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		55			55		5			1		
Link Speed (mph)		30			30		30			30		
Link Distance (ft)		653			595		745			408		
Travel Time (s)		14.8			13.5		16.9			9.3		
Confl. Peds. (#/hr)	3		8	8		3	17		15			17
Peak Hour Factor	0.53	0.58	0.62	0.61	0.50	0.73	0.72	0.84	0.80	0.63	0.95	0.75
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	6%	6%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	105	0	0	207	0	115	1237	0	43	979	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6				6	
Total Split (s)	29.0	29.0		29.0	29.0		34.0	34.0		17.0	51.0	
Total Lost Time (s)		5.5			5.5		5.5	5.5		4.0	5.5	
Act Effct Green (s)		11.6			11.6		49.5	49.5		7.8	57.4	
Actuated g/C Ratio		0.14			0.14		0.62	0.62		0.10	0.72	
v/c Ratio		0.47			0.55		0.41	0.68		0.30	0.46	
Control Delay		22.6			27.5		18.9	16.2		40.1	5.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.1	
Total Delay		22.6			27.5		18.9	16.2		40.1	5.4	
LOS		C			C		B	B		D	A	
Approach Delay		22.6			27.5			16.4			6.8	
Approach LOS		C			C			B			A	
Queue Length 50th (ft)		23			37		29	212		22	59	
Queue Length 95th (ft)		28			26		73	#406		m36	142	
Internal Link Dist (ft)		573			515			665			328	
Turn Bay Length (ft)							150			200		
Base Capacity (vph)		396			712		281	1824		240	2123	
Starvation Cap Reductn		0			0		0	0		0	291	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.27			0.29		0.41	0.68		0.18	0.53	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 13.9
 Intersection LOS: B
 Intersection Capacity Utilization 71.5%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Grand Avenue & Stowe Avenue



Intersection Capacity Analysis
12: Staton Avenue & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY AM PEAK HOUR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	25	14	57	74	12	41	16	1006	62	24	834	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.98			0.99			0.99			1.00	
Frt		0.923			0.951			0.989			0.997	
Flt Protected		0.989			0.974			0.999			0.998	
Satd. Flow (prot)	0	1510	0	0	1540	0	0	2889	0	0	2625	0
Flt Permitted		0.896			0.731			0.930			0.869	
Satd. Flow (perm)	0	1365	0	0	1150	0	0	2689	0	0	2285	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		84			35			15			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		666			765			408			549	
Travel Time (s)		15.1			17.4			9.3			12.5	
Confl. Peds. (#/hr)	9		10	10		9	25		55	55		25
Peak Hour Factor	0.75	0.46	0.68	0.80	0.69	0.65	0.75	0.85	0.66	0.72	0.90	0.75
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	5	0
Parking (#/hr)											20	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	147	0	0	172	0	0	1299	0	0	977	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	34.0	34.0		34.0	34.0		46.0	46.0		46.0	46.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
Act Effct Green (s)		14.5			14.5			54.5			54.5	
Actuated g/C Ratio		0.18			0.18			0.68			0.68	
v/c Ratio		0.46			0.73			0.71			0.63	
Control Delay		17.4			40.8			6.9			10.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.4			40.8			6.9			10.6	
LOS		B			D			A			B	
Approach Delay		17.4			40.8			6.9			10.6	
Approach LOS		B			D			A			B	
Queue Length 50th (ft)		27			65			21			121	
Queue Length 95th (ft)		17			80			83			244	
Internal Link Dist (ft)		586			685			328			469	
Turn Bay Length (ft)												
Base Capacity (vph)		540			432			1835			1556	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.27			0.40			0.71			0.63	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 77 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 11.1
 Intersection Capacity Utilization 70.6%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 12: Staton Avenue & Grand Avenue



	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙		↑		↘	↓
Volume (vph)	50	55	717	0	175	798
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.929					
Flt Protected	0.977				0.950	
Satd. Flow (prot)	1522	0	1358	0	1547	1358
Flt Permitted	0.977				0.325	
Satd. Flow (perm)	1522	0	1358	0	529	1358
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	60					
Link Speed (mph)	30		30			30
Link Distance (ft)	226		513			327
Travel Time (s)	5.1		11.7			7.4
Peak Hour Factor	0.92	0.92	0.94	0.92	0.88	0.98
Heavy Vehicles (%)	2%	2%	7%	2%	5%	7%
Parking (#/hr)			10			10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	763	0	199	814
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Total Split (s)	30.0		60.0		60.0	60.0
Total Lost Time (s)	6.0		6.0		6.0	6.0
Act Effct Green (s)	11.0		71.4		71.4	71.4
Actuated g/C Ratio	0.12		0.79		0.79	0.79
v/c Ratio	0.48		0.71		0.47	0.76
Control Delay	26.1		7.8		4.5	11.5
Queue Delay	0.0		0.0		0.0	2.4
Total Delay	26.1		7.9		4.5	13.9
LOS	C		A		A	B
Approach Delay	26.1		7.9			12.1
Approach LOS	C		A			B
Queue Length 50th (ft)	29		47		0	64
Queue Length 95th (ft)	77		191		23	#592
Internal Link Dist (ft)	146		433			247
Turn Bay Length (ft)						
Base Capacity (vph)	449		1078		419	1078
Starvation Cap Reductn	0		7		0	130
Spillback Cap Reductn	6		0		0	151
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.26		0.71		0.47	0.88

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 11.2 Intersection LOS: B
 Intersection Capacity Utilization 81.9% ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 34: Grand Avenue & McKenna PI



Intersection Capacity Analysis
1: Merrick Road & Grand Avenue

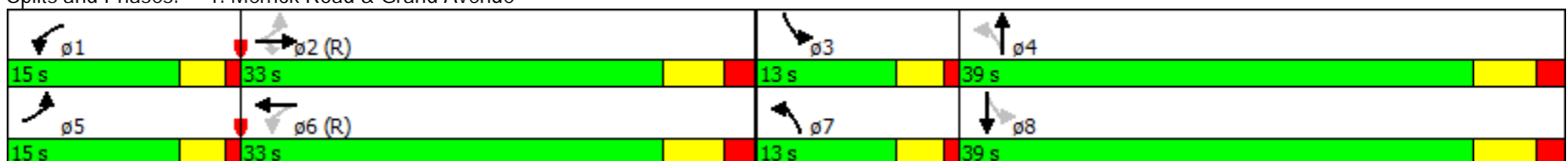
2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY MIDDAY PEAK HOUR

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↖	↖	↑↑		↖	↑↑		↖	↑↑	
Volume (vph)	94	415	125	137	453	100	121	405	114	89	383	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	9	11	11	10	10	11	10	10	10
Storage Length (ft)	200		100	100		80	150		0	150		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.98		0.99			0.99			0.99	
Frt			0.850		0.974			0.958			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1458	2945	1398	1406	2862	0	1430	2469	0	1458	2477	0
Flt Permitted	0.317			0.398			0.283			0.307		
Satd. Flow (perm)	486	2945	1372	589	2862	0	426	2469	0	471	2477	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			139		25			63			55	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		687			922			603			243	
Travel Time (s)		15.6			21.0			13.7			5.5	
Confl. Peds. (#/hr)			4			13			5			9
Peak Hour Factor	0.79	0.88	0.89	0.84	0.88	0.91	0.96	0.98	0.70	0.82	0.89	0.76
Heavy Vehicles (%)	4%	6%	4%	4%	6%	4%	6%	5%	4%	4%	5%	3%
Bus Blockages (#/hr)	0	3	0	0	3	0	0	3	0	0	3	0
Parking (#/hr)								20			20	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	472	140	163	625	0	126	576	0	109	587	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4			8		
Total Split (s)	15.0	33.0	33.0	15.0	33.0		13.0	39.0		13.0	39.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	44.3	32.7	32.7	46.5	33.8		39.1	27.9		38.2	27.4	
Actuated g/C Ratio	0.44	0.33	0.33	0.46	0.34		0.39	0.28		0.38	0.27	
v/c Ratio	0.39	0.49	0.26	0.45	0.64		0.49	0.79		0.41	0.82	
Control Delay	19.6	30.8	6.5	20.7	32.1		23.6	37.3		21.3	40.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.6	30.8	6.5	20.7	32.1		23.6	37.3		21.3	40.0	
LOS	B	C	A	C	C		C	D		C	D	
Approach Delay		24.3			29.7			34.8			37.1	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	42	134	0	60	176		47	157		40	166	
Queue Length 95th (ft)	71	186	45	102	247		80	210		63	213	
Internal Link Dist (ft)		607			842			523			163	
Turn Bay Length (ft)	200		100	100			150			150		
Base Capacity (vph)	331	963	542	372	983		263	856		273	854	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.36	0.49	0.26	0.44	0.64		0.48	0.67		0.40	0.69	

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 59.5 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 31.4
 Intersection LOS: C
 Intersection Capacity Utilization 67.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Merrick Road & Grand Avenue



Intersection Capacity Analysis
2: Grand Avenue & Prospect Street

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY MIDDAY PEAK HOUR

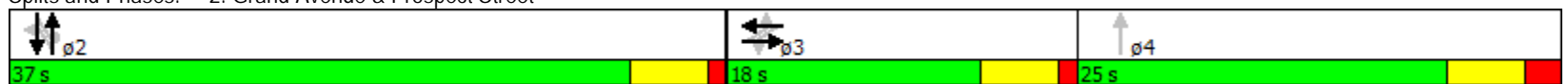


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4
Lane Configurations		↕			↕		↗	↖		↗	↖		
Volume (vph)	27	2	6	8	1	39	2	530	19	58	561	29	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	16	10	12	12	12	12	12	12	12	12	12	
Storage Length (ft)	0		0	0		0	250		0	250		0	
Storage Lanes	0		0	0		0	1		0	1		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		0.99			0.98		1.00	1.00		1.00	1.00		
Frt		0.974			0.898			0.991			0.990		
Flt Protected		0.964			0.990		0.950			0.950			
Satd. Flow (prot)	0	1784	0	0	1458	0	1577	1290	0	1577	1289	0	
Flt Permitted		0.758			0.943		0.279			0.343			
Satd. Flow (perm)	0	1395	0	0	1388	0	463	1290	0	567	1289	0	
Right Turn on Red			No			Yes			Yes			Yes	
Satd. Flow (RTOR)					63			10			6		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		602			588			464			1176		
Travel Time (s)		13.7			13.4			10.5			26.7		
Confl. Peds. (#/hr)	3					3	4		9	9		4	
Peak Hour Factor	0.57	0.50	0.50	0.50	0.25	0.62	0.25	0.93	0.50	0.81	0.86	0.61	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	5%	3%	3%	5%	3%	
Parking (#/hr)								20			20		
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	63	0	0	83	0	8	608	0	72	700	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		3			3			2			2		4
Permitted Phases	3			3			2	4		2			
Total Split (s)	18.0	18.0		18.0	18.0		37.0	37.0		37.0	37.0		25.0
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0		
Act Effct Green (s)		13.0			13.0		32.0	32.0		32.0	32.0		
Actuated g/C Ratio		0.24			0.24		0.58	0.58		0.58	0.58		
v/c Ratio		0.19			0.22		0.03	0.81		0.22	0.93		
Control Delay		18.6			9.1		5.5	20.2		7.6	33.8		
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0		
Total Delay		18.6			9.1		5.5	20.2		7.6	33.8		
LOS		B			A		A	C		A	C		
Approach Delay		18.6			9.1			20.0			31.4		
Approach LOS		B			A			C			C		
Queue Length 50th (ft)		16			5		1	133		10	179		
Queue Length 95th (ft)		23			0		1	#330		24	#378		
Internal Link Dist (ft)		522			508			384			1096		
Turn Bay Length (ft)							250			250			
Base Capacity (vph)		329			376		269	754		329	752		
Starvation Cap Reductn		0			0		0	0		0	0		
Spillback Cap Reductn		0			0		0	0		0	0		
Storage Cap Reductn		0			0		0	0		0	0		
Reduced v/c Ratio		0.19			0.22		0.03	0.81		0.22	0.93		

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 55
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 25.1
 Intersection LOS: C
 Intersection Capacity Utilization 66.4%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Grand Avenue & Prospect Street



Intersection Capacity Analysis
3: Sunrise Highway & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY MIDDAY PEAK HOUR

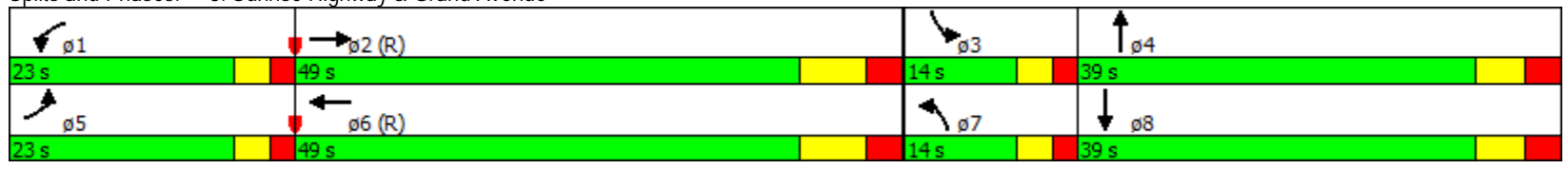
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Volume (vph)	188	1165	65	163	951	58	79	388	163	121	429	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	10	10	10	10	10	10
Storage Length (ft)	300		0	400		0	250		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.991			0.989			0.954			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1504	4112	0	1577	4067	0	1404	2755	0	1444	2769	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1504	4112	0	1577	4067	0	1404	2755	0	1444	2769	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)		8			10							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1155			1126			297			297	
Travel Time (s)		26.3			25.6			6.8			6.8	
Confl. Peds. (#/hr)			7			6			16			16
Peak Hour Factor	0.94	0.89	0.81	0.92	0.95	0.76	0.84	0.95	0.91	0.84	0.82	0.72
Heavy Vehicles (%)	8%	13%	2%	3%	14%	5%	8%	3%	5%	5%	4%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	2	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	1389	0	177	1077	0	94	587	0	144	684	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Total Split (s)	23.0	49.0		23.0	49.0		14.0	39.0		14.0	39.0	
Total Lost Time (s)	5.0	8.4		5.0	8.4		5.0	7.0		5.0	7.0	
Act Effct Green (s)	17.9	41.8		16.8	40.7		9.0	32.0		9.0	32.0	
Actuated g/C Ratio	0.14	0.33		0.13	0.33		0.07	0.26		0.07	0.26	
v/c Ratio	0.93	1.01		0.83	0.81		0.93	0.83		1.40	0.97	
Control Delay	99.0	67.3		83.6	44.0		130.1	55.5		269.3	72.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	99.0	67.3		83.6	44.0		130.1	55.5		269.3	72.7	
LOS	F	E		F	D		F	E		F	E	
Approach Delay		71.3			49.6			65.8			106.9	
Approach LOS		E			D			E			F	
Queue Length 50th (ft)	162	-441		140	289		77	237		-155	288	
Queue Length 95th (ft)	#311	#528		#255	348		#169	#325		#266	#350	
Internal Link Dist (ft)		1075			1046			217			217	
Turn Bay Length (ft)	300			400			250			250		
Base Capacity (vph)	216	1380		227	1330		101	705		103	708	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.93	1.01		0.78	0.81		0.93	0.83		1.40	0.97	

Intersection Summary

Area Type: CBD
 Cycle Length: 125
 Actuated Cycle Length: 125
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.40
 Intersection Signal Delay: 71.0
 Intersection Capacity Utilization 86.6%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service E

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Sunrise Highway & Grand Avenue



Intersection Capacity Analysis
4: Grand Avenue & Baldwin Avenue/Miller Place

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY MIDDAY PEAK HOUR

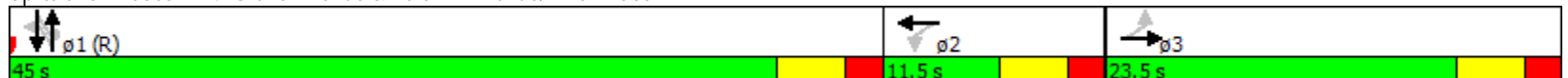


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Volume (vph)	15	6	24	5	5	7	13	551	13	8	684	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99		1.00	1.00		0.99	1.00	
Frt		0.934			0.966			0.995			0.996	
Flt Protected		0.981			0.988		0.950			0.950		
Satd. Flow (prot)	0	1514	0	0	1582	0	1593	1366	0	1577	1380	0
Flt Permitted		0.859					0.265			0.352		
Satd. Flow (perm)	0	1320	0	0	1596	0	443	1366	0	579	1380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			8			3			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		721			584			661			509	
Travel Time (s)		16.4			13.3			15.0			11.6	
Confl. Peds. (#/hr)	5		4	7		4	12		26	26		12
Peak Hour Factor	0.58	0.75	0.72	0.63	0.31	0.88	0.60	0.90	0.60	0.67	0.90	0.55
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	3%	4%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	2	0
Parking (#/hr)								10			10	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	32	0	22	634	0	12	782	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			2			1			1	
Permitted Phases	3			2			1			1		
Total Split (s)	23.5	23.5		11.5	11.5		45.0	45.0		45.0	45.0	
Total Lost Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Act Effct Green (s)		9.1			6.0		58.7	58.7		58.7	58.7	
Actuated g/C Ratio		0.11			0.08		0.73	0.73		0.73	0.73	
v/c Ratio		0.37			0.25		0.07	0.63		0.03	0.77	
Control Delay		24.2			33.7		8.5	14.6		9.6	16.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		24.2			33.7		8.5	14.6		9.6	16.6	
LOS		C			C		A	B		A	B	
Approach Delay		24.2			33.7			14.4			16.5	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		16			12		2	101		2	100	
Queue Length 95th (ft)		36			10		11	#504		m4	#665	
Internal Link Dist (ft)		641			504			581			429	
Turn Bay Length (ft)							200			200		
Base Capacity (vph)		322			127		325	1003		424	1013	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.21			0.25		0.07	0.63		0.03	0.77	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 16.3
 Intersection LOS: B
 Intersection Capacity Utilization 56.1%
 ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Grand Avenue & Baldwin Avenue/Miller Place



	↑	↶	↷	↓	↶	↷
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↑↑			↑↑		↶
Volume (vph)	620	0	0	951	0	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	11	12	12
Storage Length (ft)		0	80		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt						0.865
Flt Protected						
Satd. Flow (prot)	2862	0	0	2707	0	1409
Flt Permitted						
Satd. Flow (perm)	2862	0	0	2707	0	1409
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	30			30	30	
Link Distance (ft)	329			379	353	
Travel Time (s)	7.5			8.6	8.0	
Confl. Peds. (#/hr)		14	14			1
Peak Hour Factor	0.94	0.25	0.88	0.93	0.92	0.94
Heavy Vehicles (%)	5%	2%	4%	4%	2%	5%
Bus Blockages (#/hr)	0	0	0	2	0	0
Parking (#/hr)	10			20		
Shared Lane Traffic (%)						
Lane Group Flow (vph)	660	0	0	1023	0	250
Turn Type	NA			NA		Prot
Protected Phases	2			6		8
Permitted Phases				2		
Total Split (s)	52.0			52.0		28.0
Total Lost Time (s)	6.0			6.0		6.0
Act Effct Green (s)	47.2			47.2		20.8
Actuated g/C Ratio	0.59			0.59		0.26
v/c Ratio	0.39			0.64		0.68
Control Delay	8.7			6.7		37.1
Queue Delay	0.3			0.2		0.0
Total Delay	9.0			7.0		37.1
LOS	A			A		D
Approach Delay	9.0			7.0		
Approach LOS	A			A		
Queue Length 50th (ft)	60			69		114
Queue Length 95th (ft)	74			25		189
Internal Link Dist (ft)	249			299	273	
Turn Bay Length (ft)						
Base Capacity (vph)	1688			1597		388
Starvation Cap Reductn	453			128		0
Spillback Cap Reductn	0			108		0
Storage Cap Reductn	0			0		0
Reduced v/c Ratio	0.53			0.70		0.64

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:NBSB and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 11.5
 Intersection LOS: B
 Intersection Capacity Utilization 45.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 5: Milburn Avenue



Intersection Capacity Analysis
6: Lorenz Avenue

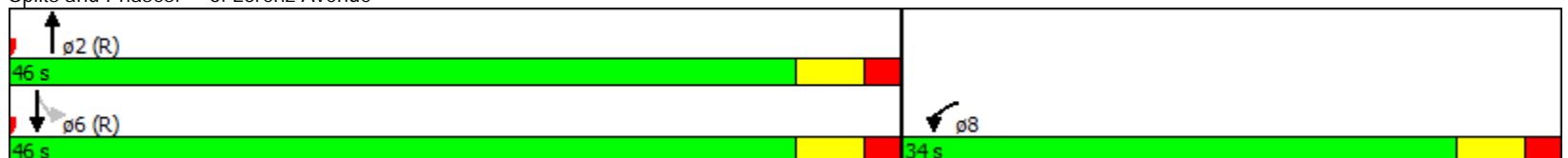
2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY MIDDAY PEAK HOUR

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↑↑			↖↗
Volume (vph)	6	5	793	6	11	948
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99		1.00			1.00
Frt	0.946		0.998			
Flt Protected	0.971					0.999
Satd. Flow (prot)	1531	0	2650	0	0	2715
Flt Permitted	0.971					0.937
Satd. Flow (perm)	1531	0	2650	0	0	2546
Right Turn on Red		No		Yes		
Satd. Flow (RTOR)			2			
Link Speed (mph)	30		30			30
Link Distance (ft)	918		379			300
Travel Time (s)	20.9		8.6			6.8
Confl. Peds. (#/hr)		2		21	21	
Peak Hour Factor	0.50	0.63	0.91	0.50	0.63	0.89
Heavy Vehicles (%)	2%	2%	6%	5%	5%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0
Parking (#/hr)			20			20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	0	883	0	0	1082
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Total Split (s)	34.0		46.0		46.0	46.0
Total Lost Time (s)	5.5		5.5			5.5
Act Effct Green (s)	9.2		70.1			70.1
Actuated g/C Ratio	0.12		0.88			0.88
v/c Ratio	0.11		0.38			0.48
Control Delay	30.1		3.7			3.6
Queue Delay	0.0		0.0			0.0
Total Delay	30.1		3.7			3.6
LOS	C		A			A
Approach Delay	30.1		3.7			3.6
Approach LOS	C		A			A
Queue Length 50th (ft)	10		0			0
Queue Length 95th (ft)	13		144			82
Internal Link Dist (ft)	838		299			220
Turn Bay Length (ft)						
Base Capacity (vph)	545		2323			2232
Starvation Cap Reductn	0		39			14
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.04		0.39			0.49

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay: 3.9
 Intersection Capacity Utilization 52.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 6: Lorenz Avenue



Intersection Capacity Analysis
7: Seaman Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY MIDDAY PEAK HOUR

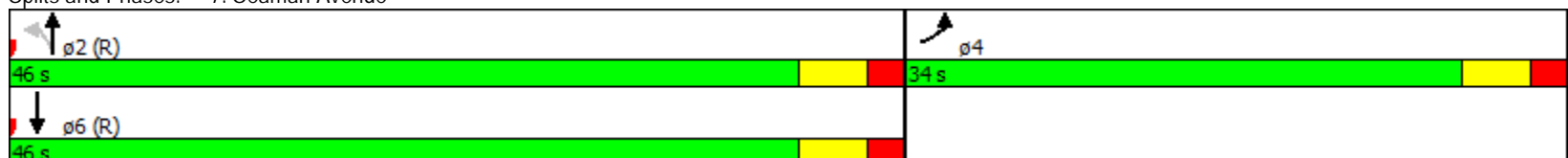


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖		↖	↑↑	↑↑	
Volume (vph)	104	68	50	663	918	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99		1.00		1.00	
Frt	0.941				0.985	
Flt Protected	0.973		0.950			
Satd. Flow (prot)	1447	0	1441	2656	2654	0
Flt Permitted	0.973		0.228			
Satd. Flow (perm)	1447	0	345	2656	2654	0
Right Turn on Red		No				Yes
Satd. Flow (RTOR)					21	
Link Speed (mph)	30			30	30	
Link Distance (ft)	655			360	196	
Travel Time (s)	14.9			8.2	4.5	
Confl. Peds. (#/hr)		4	16			16
Peak Hour Factor	0.84	0.70	0.78	0.81	0.95	0.88
Heavy Vehicles (%)	7%	8%	9%	6%	4%	3%
Bus Blockages (#/hr)	0	0	0	2	3	0
Parking (#/hr)				20	20	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	221	0	64	819	1072	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Total Split (s)	34.0		46.0	46.0	46.0	
Total Lost Time (s)	5.5		5.5	5.5	5.5	
Act Effct Green (s)	17.5		51.5	51.5	51.5	
Actuated g/C Ratio	0.22		0.64	0.64	0.64	
v/c Ratio	0.70		0.29	0.48	0.63	
Control Delay	39.9		9.1	6.9	6.6	
Queue Delay	0.0		0.0	0.1	0.0	
Total Delay	39.9		9.1	7.0	6.6	
LOS	D		A	A	A	
Approach Delay	39.9			7.2	6.6	
Approach LOS	D			A	A	
Queue Length 50th (ft)	102		9	81	63	
Queue Length 95th (ft)	143		8	33	80	
Internal Link Dist (ft)	575			280	116	
Turn Bay Length (ft)			200			
Base Capacity (vph)	515		221	1708	1714	
Starvation Cap Reductn	0		0	197	5	
Spillback Cap Reductn	0		0	81	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.43		0.29	0.54	0.63	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 10.2
 Intersection Capacity Utilization 67.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 7: Seaman Avenue



Intersection Capacity Analysis
8: Seaman Avenue

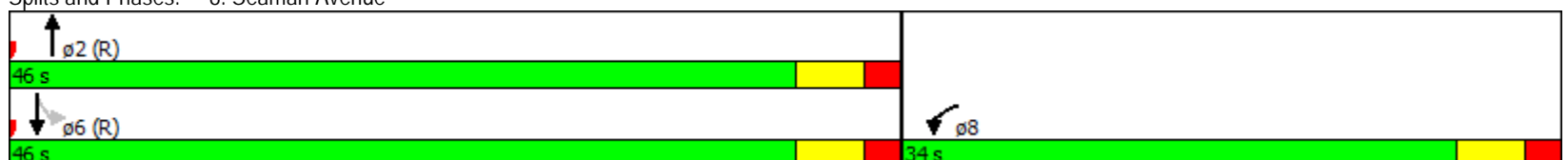
2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY MIDDAY PEAK HOUR

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗		↑↑		↘↗	↑↑
Volume (vph)	115	107	768	125	89	889
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor	0.99		0.98		0.98	
Frt	0.937		0.977			
Flt Protected	0.974				0.950	
Satd. Flow (prot)	1499	0	2561	0	1540	2707
Flt Permitted	0.974				0.249	
Satd. Flow (perm)	1499	0	2561	0	394	2707
Right Turn on Red		No		Yes		
Satd. Flow (RTOR)			38			
Link Speed (mph)	30		30			30
Link Distance (ft)	767		196			252
Travel Time (s)	17.4		4.5			5.7
Confl. Peds. (#/hr)		2		64	64	
Peak Hour Factor	0.80	0.84	0.92	0.81	0.88	0.94
Heavy Vehicles (%)	2%	5%	4%	9%	2%	4%
Bus Blockages (#/hr)	0	0	3	0	0	2
Parking (#/hr)			20			20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	271	0	989	0	101	946
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Total Split (s)	34.0		46.0		46.0	46.0
Total Lost Time (s)	5.5		5.5		5.5	5.5
Act Effct Green (s)	19.7		49.3		49.3	49.3
Actuated g/C Ratio	0.25		0.62		0.62	0.62
v/c Ratio	0.73		0.62		0.42	0.57
Control Delay	39.1		7.2		7.4	4.0
Queue Delay	0.0		0.0		0.0	0.2
Total Delay	39.1		7.2		7.4	4.3
LOS	D		A		A	A
Approach Delay	39.1		7.2			4.6
Approach LOS	D		A			A
Queue Length 50th (ft)	125		64		6	28
Queue Length 95th (ft)	156		65		m11	39
Internal Link Dist (ft)	687		116			172
Turn Bay Length (ft)					100	
Base Capacity (vph)	534		1592		242	1667
Starvation Cap Reductn	0		0		0	200
Spillback Cap Reductn	0		0		0	18
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.51		0.62		0.42	0.64

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 9.8
 Intersection LOS: A
 Intersection Capacity Utilization 73.7%
 ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Seaman Avenue



Intersection Capacity Analysis
 9: St Lukes Place & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
 WEEKDAY MIDDAY PEAK HOUR

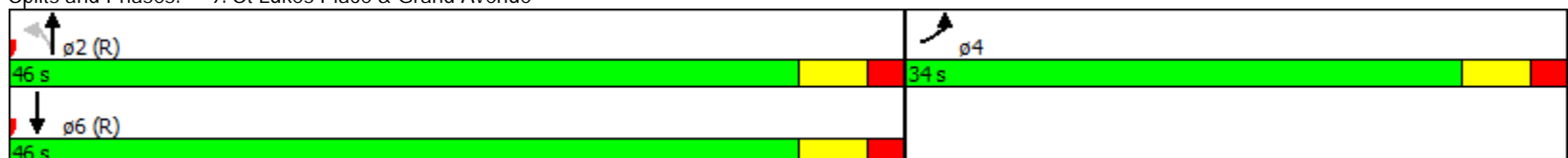


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖		↗	↑↑	↑↑	
Volume (vph)	96	31	34	828	937	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0	75			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00		1.00		1.00	
Frt	0.962				0.985	
Flt Protected	0.965		0.950			
Satd. Flow (prot)	1551	0	1496	2718	2671	0
Flt Permitted	0.965		0.227			
Satd. Flow (perm)	1551	0	357	2718	2671	0
Right Turn on Red		No				Yes
Satd. Flow (RTOR)					21	
Link Speed (mph)	30			30	30	
Link Distance (ft)	678			252	852	
Travel Time (s)	15.4			5.7	19.4	
Confl. Peds. (#/hr)		1	13			13
Peak Hour Factor	0.80	0.66	0.73	0.88	0.94	0.85
Heavy Vehicles (%)	2%	2%	5%	4%	4%	3%
Parking (#/hr)				20	20	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	167	0	47	941	1106	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Total Split (s)	34.0		46.0	46.0	46.0	
Total Lost Time (s)	5.5		5.5	5.5	5.5	
Act Effct Green (s)	14.1		54.9	54.9	54.9	
Actuated g/C Ratio	0.18		0.69	0.69	0.69	
v/c Ratio	0.61		0.19	0.50	0.60	
Control Delay	39.5		4.2	3.4	4.8	
Queue Delay	0.0		0.0	0.2	0.0	
Total Delay	39.5		4.2	3.6	4.8	
LOS	D		A	A	A	
Approach Delay	39.5			3.7	4.8	
Approach LOS	D			A	A	
Queue Length 50th (ft)	78		4	45	67	
Queue Length 95th (ft)	111		m8	66	2	
Internal Link Dist (ft)	598			172	772	
Turn Bay Length (ft)			75			
Base Capacity (vph)	552		245	1866	1840	
Starvation Cap Reductn	0		0	290	0	
Spillback Cap Reductn	0		0	0	11	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.30		0.19	0.60	0.60	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 6.9
 Intersection LOS: A
 Intersection Capacity Utilization 49.7%
 ICU Level of Service A
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: St Lukes Place & Grand Avenue



Intersection Capacity Analysis
10: Grand Avenue & High School Drive

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY MIDDAY PEAK HOUR

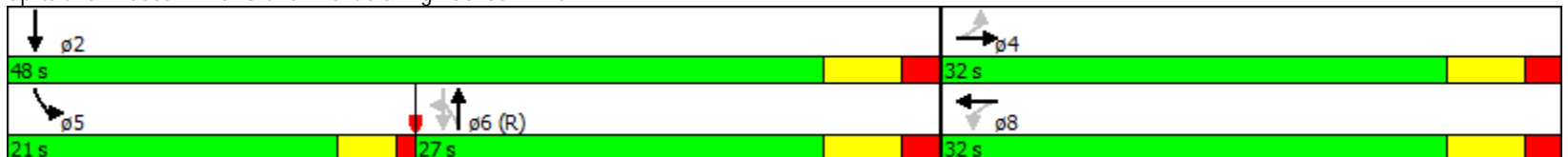


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Volume (vph)	1	0	7	16	0	12	6	922	23	12	1055	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	150		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.96		0.98	1.00			1.00	
Frt		0.899			0.937			0.996			0.998	
Flt Protected		0.988			0.974		0.950			0.950		
Satd. Flow (prot)	0	1475	0	0	1470	0	1562	2984	0	1562	3000	0
Flt Permitted		0.931			0.831		0.242			0.950		
Satd. Flow (perm)	0	1366	0	0	1254	0	391	2984	0	1562	3000	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		95			95			4			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		564			861			852			745	
Travel Time (s)		12.8			19.6			19.4			16.9	
Confl. Peds. (#/hr)	73		1	1		73	49		23			49
Peak Hour Factor	0.25	0.50	0.58	0.63	0.55	0.55	0.50	0.94	0.79	0.55	0.91	0.50
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	2	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	47	0	12	1010	0	22	1171	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6				6	
Total Split (s)	32.0	32.0		32.0	32.0		27.0	27.0		21.0	48.0	
Total Lost Time (s)		6.0			6.0		6.0	6.0		4.0	6.0	
Act Effct Green (s)		15.6			15.6		56.4	56.4		6.7	61.2	
Actuated g/C Ratio		0.20			0.20		0.70	0.70		0.08	0.76	
v/c Ratio		0.05			0.15		0.04	0.48		0.17	0.51	
Control Delay		0.2			1.9		19.3	16.3		37.8	8.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.2			1.9		19.3	16.3		37.8	8.7	
LOS		A			A		B	B		D	A	
Approach Delay		0.3			1.9			16.4			9.2	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0			0		1	75		11	113	
Queue Length 95th (ft)		0			0		m10	#305		m20	217	
Internal Link Dist (ft)		484			781			772			665	
Turn Bay Length (ft)							150			200		
Base Capacity (vph)		508			471		275	2105		331	2295	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.03			0.10		0.04	0.48		0.07	0.51	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 12.2
 Intersection Capacity Utilization 61.6%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Grand Avenue & High School Drive



Intersection Capacity Analysis
11: Grand Avenue & Stowe Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY MIDDAY PEAK HOUR

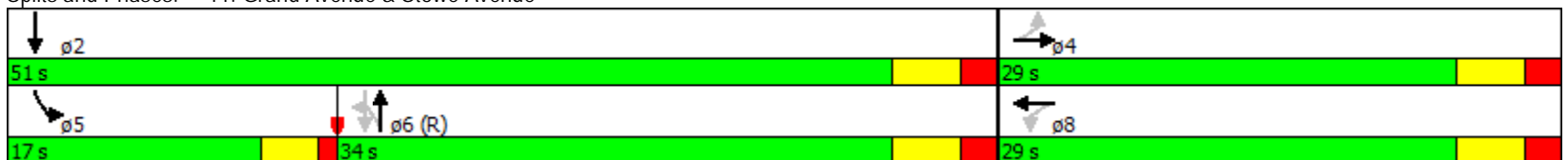


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Volume (vph)	87	8	111	48	11	27	138	960	15	28	835	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	350		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.99		0.99	1.00			1.00	
Frt		0.929			0.950			0.998			0.992	
Flt Protected		0.980			0.975		0.950			0.950		
Satd. Flow (prot)	0	1497	0	0	2935	0	1510	3040	0	1510	2963	0
Flt Permitted		0.810			0.666		0.289			0.950		
Satd. Flow (perm)	0	1236	0	0	1990	0	455	3040	0	1510	2963	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		70			39			2			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		653			595			745			408	
Travel Time (s)		14.8			13.5			16.9			9.3	
Confl. Peds. (#/hr)	3		21	21		3	44		45			44
Peak Hour Factor	0.79	0.50	0.80	0.80	0.63	0.69	0.86	0.82	0.88	0.59	0.89	0.56
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	3%	3%	4%	5%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	265	0	0	116	0	160	1188	0	47	990	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6				6	
Total Split (s)	29.0	29.0		29.0	29.0		34.0	34.0		17.0	51.0	
Total Lost Time (s)		5.5			5.5		5.5	5.5		4.0	5.5	
Act Effct Green (s)		17.6			17.6		43.4	43.4		8.0	51.4	
Actuated g/C Ratio		0.22			0.22		0.54	0.54		0.10	0.64	
v/c Ratio		0.81			0.25		0.65	0.72		0.31	0.52	
Control Delay		40.3			17.2		31.0	16.8		44.7	8.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.2	
Total Delay		40.3			17.2		31.0	16.8		44.7	8.5	
LOS		D			B		C	B		D	A	
Approach Delay		40.3			17.2			18.5			10.2	
Approach LOS		D			B			B			B	
Queue Length 50th (ft)		92			16		58	227		25	87	
Queue Length 95th (ft)		62			21		#175	#372		m39	163	
Internal Link Dist (ft)		573			515			665			328	
Turn Bay Length (ft)							350			120		
Base Capacity (vph)		412			612		246	1650		245	1907	
Starvation Cap Reductn		0			0		0	0		0	245	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.64			0.19		0.65	0.72		0.19	0.60	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 17.4
 Intersection LOS: B
 Intersection Capacity Utilization 78.3%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Grand Avenue & Stowe Avenue



Intersection Capacity Analysis
12: Stanton Avenue & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY MIDDAY PEAK HOUR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	17	8	25	56	4	34	18	883	70	32	1050	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.937			0.953			0.989			0.997	
Flt Protected		0.981			0.972			0.999			0.998	
Satd. Flow (prot)	0	1530	0	0	1540	0	0	2986	0	0	2690	0
Flt Permitted		0.854			0.833			0.895			0.843	
Satd. Flow (perm)	0	1326	0	0	1317	0	0	2675	0	0	2272	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			37			14			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		666			765			408			549	
Travel Time (s)		15.1			17.4			9.3			12.5	
Confl. Peds. (#/hr)	11		3	3		11	41		20	20		41
Peak Hour Factor	0.57	0.67	0.67	0.88	0.50	0.89	0.61	0.93	0.92	0.58	0.98	0.55
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	2	0
Parking (#/hr)											20	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	110	0	0	1055	0	0	1148	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	34.0	34.0		34.0	34.0		46.0	46.0		46.0	46.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
Act Effct Green (s)		11.2			11.2			61.2			61.2	
Actuated g/C Ratio		0.14			0.14			0.76			0.76	
v/c Ratio		0.36			0.51			0.52			0.66	
Control Delay		21.9			28.6			3.0			9.8	
Queue Delay		0.0			0.0			0.1			0.0	
Total Delay		21.9			28.6			3.0			9.8	
LOS		C			C			A			A	
Approach Delay		21.9			28.6			3.0			9.8	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		19			34			25			127	
Queue Length 95th (ft)		33			30			43			314	
Internal Link Dist (ft)		586			685			328			469	
Turn Bay Length (ft)												
Base Capacity (vph)		496			493			2048			1737	
Starvation Cap Reductn		0			0			144			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.16			0.22			0.55			0.66	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 8.1
 Intersection Capacity Utilization 80.2%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service D

Splits and Phases: 12: Stanton Avenue & Grand Avenue



	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙		↑		↘	↑
Volume (vph)	25	47	573	0	191	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.912					
Flt Protected	0.983				0.950	
Satd. Flow (prot)	1503	0	1384	0	1562	1398
Flt Permitted	0.983				0.402	
Satd. Flow (perm)	1503	0	1384	0	661	1398
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	51					
Link Speed (mph)	30		30			30
Link Distance (ft)	205		509			329
Travel Time (s)	4.7		11.6			7.5
Peak Hour Factor	0.92	0.92	0.94	0.92	0.88	0.93
Heavy Vehicles (%)	2%	2%	5%	2%	4%	4%
Parking (#/hr)			10			10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	610	0	217	817
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Total Split (s)	24.0		56.0		56.0	56.0
Total Lost Time (s)	6.0		6.0		6.0	6.0
Act Effct Green (s)	10.2		62.2		62.2	62.2
Actuated g/C Ratio	0.13		0.78		0.78	0.78
v/c Ratio	0.33		0.57		0.42	0.75
Control Delay	19.1		4.2		2.6	11.3
Queue Delay	0.0		0.0		0.0	1.6
Total Delay	19.1		4.3		2.6	12.9
LOS	B		A		A	B
Approach Delay	19.1		4.3			10.7
Approach LOS	B		A			B
Queue Length 50th (ft)	12		17		0	402
Queue Length 95th (ft)	50		59		15	#487
Internal Link Dist (ft)	125		429			249
Turn Bay Length (ft)						
Base Capacity (vph)	377		1076		514	1087
Starvation Cap Reductn	0		21		0	128
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.21		0.58		0.42	0.85

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 8.8 Intersection LOS: A
 Intersection Capacity Utilization 73.5% ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 37: Grand Avenue & McKenna PI



Intersection Capacity Analysis
1: Merrick Road & Grand Avenue

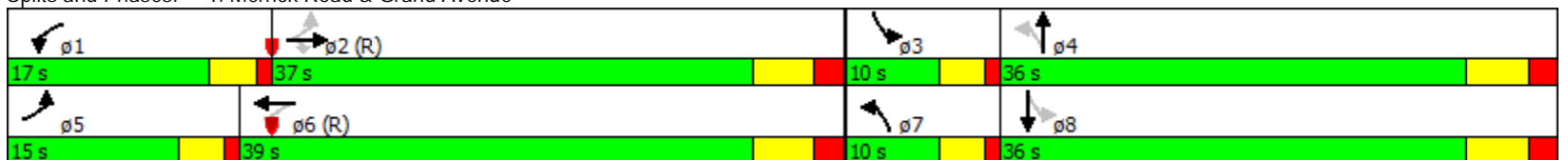
2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY PM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	769	196	230	545	95	117	451	145	156	584	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	9	11	11	10	10	11	10	10	10
Storage Length (ft)	200		100	100		80	150		0	150		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97		0.99			0.99			1.00	
Fr _t			0.850		0.977			0.965			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1430	3049	1425	1433	2966	0	1501	2514	0	1516	2581	0
Flt Permitted	0.282			0.133			0.210			0.253		
Satd. Flow (perm)	425	3049	1384	201	2966	0	332	2514	0	404	2581	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134		22			41			24	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		687			922			603			223	
Travel Time (s)		15.6			21.0			13.7			5.1	
Confl. Peds. (#/hr)			11			24			31			10
Peak Hour Factor	0.92	0.91	0.86	0.92	0.90	0.88	0.83	0.90	0.95	0.89	0.96	0.81
Heavy Vehicles (%)	6%	3%	2%	2%	3%	1%	1%	3%	5%	0%	3%	1%
Parking (#/hr)								20			20	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	845	228	250	714	0	141	654	0	175	731	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4			8		
Total Split (s)	15.0	37.0	37.0	17.0	39.0		10.0	36.0		10.0	36.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	42.5	30.4	30.4	48.7	34.0		37.7	29.3		38.2	29.5	
Actuated g/C Ratio	0.42	0.30	0.30	0.49	0.34		0.38	0.29		0.38	0.30	
v/c Ratio	0.53	0.91	0.44	0.94	0.70		0.70	0.86		0.77	0.94	
Control Delay	21.7	48.6	14.5	67.9	32.3		41.4	43.6		45.9	54.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.7	48.6	14.5	67.9	32.3		41.4	43.6		45.9	54.4	
LOS	C	D	B	E	C		D	D		D	D	
Approach Delay		39.0			41.5			43.2			52.8	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	51	268	44	111	202		56	192		72	230	
Queue Length 95th (ft)	89	#383	101	#270	271		#103	#287		#159	#348	
Internal Link Dist (ft)		607			842			523			143	
Turn Bay Length (ft)	200		100	100			150			150		
Base Capacity (vph)	295	945	521	265	1023		200	782		228	791	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.51	0.89	0.44	0.94	0.70		0.70	0.84		0.77	0.92	

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 59.5 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 43.7
 Intersection LOS: D
 Intersection Capacity Utilization 83.7%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Merrick Road & Grand Avenue



Intersection Capacity Analysis
2: Grand Avenue & Prospect Street

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY PM PEAK HOUR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4
Lane Configurations		↕			↕		↗	↖		↗	↖		
Volume (vph)	42	13	7	17	4	70	4	603	53	93	808	34	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	16	10	12	12	12	12	12	12	12	12	12	
Storage Length (ft)	0		0	0		0	250		0	250		0	
Storage Lanes	0		0	0		0	1		0	1		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		0.98			0.96		1.00	1.00		0.99	1.00		
Frt		0.973			0.903			0.982			0.991		
Flt Protected		0.972			0.990		0.950			0.950			
Satd. Flow (prot)	0	1783	0	0	1449	0	1593	1289	0	1577	1383	0	
Flt Permitted		0.737			0.922		0.159			0.294			
Satd. Flow (perm)	0	1340	0	0	1345	0	266	1289	0	485	1383	0	
Right Turn on Red			No			Yes			Yes			Yes	
Satd. Flow (RTOR)					104			22			5		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		602			588			484			1174		
Travel Time (s)		13.7			13.4			11.0			26.7		
Confl. Peds. (#/hr)	7		5	5		7	21		22	22		21	
Peak Hour Factor	0.92	0.75	0.44	0.57	0.33	0.66	0.50	0.91	0.57	0.92	0.85	0.59	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	3%	4%	3%	
Parking (#/hr)								20			10		
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	79	0	0	148	0	8	756	0	101	1009	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		3			3			2			2		4
Permitted Phases	3			3			2	4		2			
Total Split (s)	18.0	18.0		18.0	18.0		57.0	57.0		57.0	57.0		25.0
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0		
Act Effct Green (s)		13.0			13.0		52.0	52.0		52.0	52.0		
Actuated g/C Ratio		0.17			0.17		0.69	0.69		0.69	0.69		
v/c Ratio		0.34			0.46		0.04	0.84		0.30	1.05		
Control Delay		32.0			15.6		4.2	19.4		7.3	58.4		
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0		
Total Delay		32.0			15.6		4.2	19.4		7.3	58.4		
LOS		C			B		A	B		A	E		
Approach Delay		32.0			15.6			19.2			53.8		
Approach LOS		C			B			B			D		
Queue Length 50th (ft)		33			18		1	208		15	-522		
Queue Length 95th (ft)		58			0		3	#503		38	#681		
Internal Link Dist (ft)		522			508			404			1094		
Turn Bay Length (ft)							250			250			
Base Capacity (vph)		232			319		184	900		336	960		
Starvation Cap Reductn		0			0		0	0		0	0		
Spillback Cap Reductn		0			0		0	0		0	0		
Storage Cap Reductn		0			0		0	0		0	0		
Reduced v/c Ratio		0.34			0.46		0.04	0.84		0.30	1.05		

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 37.7
 Intersection LOS: D
 Intersection Capacity Utilization 81.3%
 ICU Level of Service D
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Grand Avenue & Prospect Street



Intersection Capacity Analysis
3: Sunrise Highway & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY PM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	175	1988	40	277	1647	74	74	461	179	115	532	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	10	10	10	10	10	10
Storage Length (ft)	300		0	400		0	250		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.997			0.993			0.957			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1577	4354	0	1504	4381	0	1516	2738	0	1417	2766	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1577	4354	0	1504	4381	0	1516	2738	0	1417	2766	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)		3			6							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1155			1126			301			299	
Travel Time (s)		26.3			25.6			6.8			6.8	
Confl. Peds. (#/hr)			9			4			32			29
Peak Hour Factor	0.88	0.96	0.86	0.90	0.97	0.92	0.88	0.96	0.92	0.90	0.87	0.96
Heavy Vehicles (%)	3%	7%	0%	8%	6%	0%	0%	5%	4%	7%	6%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	2118	0	308	1778	0	84	675	0	128	731	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Total Split (s)	30.0	72.0		30.0	72.0		14.0	34.0		14.0	34.0	
Total Lost Time (s)	5.0	8.4		5.0	8.4		5.0	7.0		5.0	7.0	
Act Effct Green (s)	22.5	63.6		25.0	66.1		9.0	27.0		9.0	27.0	
Actuated g/C Ratio	0.15	0.42		0.17	0.44		0.06	0.18		0.06	0.18	
v/c Ratio	0.85	1.15		1.23	0.92		0.93	1.37		1.51	1.47	
Control Delay	91.0	112.4		184.1	48.3		146.1	224.4		323.1	264.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	91.0	112.4		184.1	48.3		146.1	224.4		323.1	264.1	
LOS	F	F		F	D		F	F		F	F	
Approach Delay		110.5			68.4			215.8			272.9	
Approach LOS		F			E			F			F	
Queue Length 50th (ft)	189	-889		-371	606		83	-457		-173	-514	
Queue Length 95th (ft)	#291	#981		#565	#723		#190	#586		#313	#616	
Internal Link Dist (ft)		1075			1046			221			219	
Turn Bay Length (ft)	300			400			250			250		
Base Capacity (vph)	262	1847		250	1935		90	492		85	497	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.76	1.15		1.23	0.92		0.93	1.37		1.51	1.47	

Intersection Summary

Area Type: CBD
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.51
 Intersection Signal Delay: 132.4
 Intersection LOS: F
 Intersection Capacity Utilization 122.0%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Sunrise Highway & Grand Avenue



Intersection Capacity Analysis
4: Grand Avenue & Baldwin Avenue/Miller Place

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY PM PEAK HOUR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↖	↗		↖	↗	
Volume (vph)	31	14	20	1	8	7	24	727	36	11	818	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.96		1.00	0.99		0.99	1.00	
Frt		0.956			0.949			0.985			0.996	
Flt Protected		0.977			0.994		0.950			0.950		
Satd. Flow (prot)	0	1539	0	0	1526	0	1562	1276	0	1562	1367	0
Flt Permitted		0.832			0.947		0.129			0.232		
Satd. Flow (perm)	0	1311	0	0	1454	0	212	1276	0	376	1367	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			12			11			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		721			584			659			502	
Travel Time (s)		16.4			13.3			15.0			11.4	
Confl. Peds. (#/hr)			10			10	23		69	69		23
Peak Hour Factor	0.73	0.81	0.68	0.25	0.50	0.58	0.64	0.95	0.43	0.50	0.81	0.71
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	5%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	2	0
Parking (#/hr)								20			10	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	88	0	0	32	0	38	849	0	22	1040	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			2			1			1	
Permitted Phases	3			2			1			1		
Total Split (s)	19.5	19.5		11.5	11.5		59.0	59.0		59.0	59.0	
Total Lost Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Act Effct Green (s)		9.9			6.0		65.6	65.6		65.6	65.6	
Actuated g/C Ratio		0.11			0.07		0.73	0.73		0.73	0.73	
v/c Ratio		0.54			0.30		0.25	0.91		0.08	1.04	
Control Delay		40.1			36.2		13.4	31.8		8.9	50.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		40.1			36.2		13.4	31.8		8.9	50.8	
LOS		D			D		B	C		A	D	
Approach Delay		40.1			36.3			31.0			49.9	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)		35			11		8	-522		4	-714	
Queue Length 95th (ft)		69			19		20	#788		m6	#845	
Internal Link Dist (ft)		641			504			579			422	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)		223			108		154	933		274	997	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.39			0.30		0.25	0.91		0.08	1.04	

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 41.2
 Intersection Capacity Utilization 69.7%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service C

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Grand Avenue & Baldwin Avenue/Miller Place

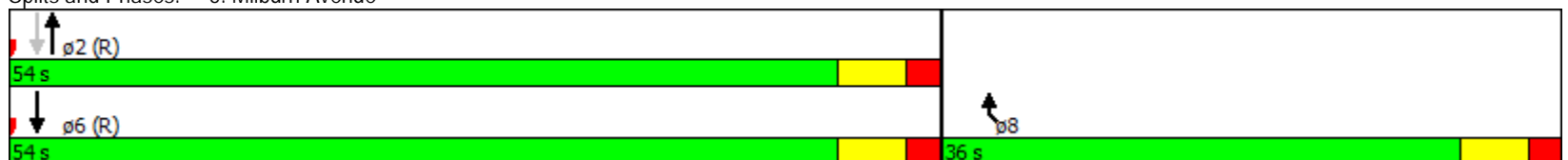


	↑	↶	↷	↓	↶	↷
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↑↑			↑↑		↶
Volume (vph)	786	1	0	1194	0	352
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	12	12
Storage Length (ft)		0	80		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor	1.00					
Frt	0.999					0.865
Flt Protected						
Satd. Flow (prot)	2886	0	0	2702	0	1422
Flt Permitted						
Satd. Flow (perm)	2886	0	0	2702	0	1422
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	30			30	30	
Link Distance (ft)	327			390	607	
Travel Time (s)	7.4			8.9	13.8	
Confl. Peds. (#/hr)		22	22			
Peak Hour Factor	0.92	0.25	0.94	0.92	0.89	0.89
Heavy Vehicles (%)	4%	2%	3%	4%	2%	4%
Bus Blockages (#/hr)	0	0	0	3	0	0
Parking (#/hr)	10			20		
Shared Lane Traffic (%)						
Lane Group Flow (vph)	858	0	0	1298	0	396
Turn Type	NA			NA		Prot
Protected Phases	2			6		8
Permitted Phases				2		
Total Split (s)	54.0			54.0		36.0
Total Lost Time (s)	6.0			6.0		6.0
Act Effct Green (s)	50.2			50.2		27.8
Actuated g/C Ratio	0.56			0.56		0.31
v/c Ratio	0.53			0.86		0.90
Control Delay	13.1			17.2		54.9
Queue Delay	0.9			3.7		0.0
Total Delay	14.0			20.8		54.9
LOS	B			C		D
Approach Delay	14.0			20.8		
Approach LOS	B			C		
Queue Length 50th (ft)	125			184		206
Queue Length 95th (ft)	136			#484		#359
Internal Link Dist (ft)	247			310	527	
Turn Bay Length (ft)						
Base Capacity (vph)	1609			1507		474
Starvation Cap Reductn	438			139		0
Spillback Cap Reductn	54			111		0
Storage Cap Reductn	0			0		0
Reduced v/c Ratio	0.73			0.95		0.84

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBSB and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 23.8
 Intersection LOS: C
 Intersection Capacity Utilization 58.4%
 ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Milburn Avenue



Intersection Capacity Analysis
6: Lorenz Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY PM PEAK HOUR

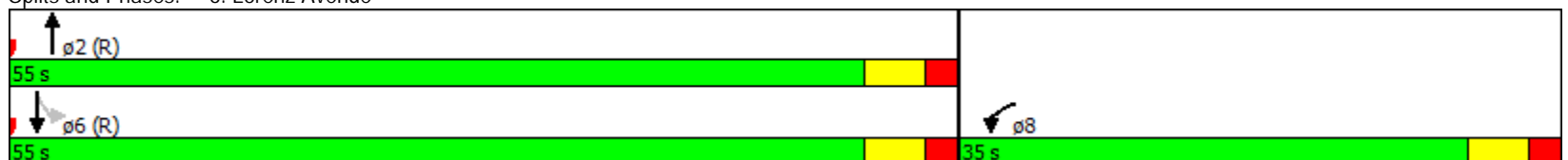


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T	R	L	R
Volume (vph)	8	6	1231	10	18	1503
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor			1.00			1.00
Frt	0.932		0.999			
Flt Protected	0.976					0.999
Satd. Flow (prot)	1525	0	2699	0	0	2742
Flt Permitted	0.976					0.877
Satd. Flow (perm)	1525	0	2699	0	0	2407
Right Turn on Red		No		Yes		
Satd. Flow (RTOR)			2			
Link Speed (mph)	30		30			30
Link Distance (ft)	918		390			300
Travel Time (s)	20.9		8.9			6.8
Confl. Peds. (#/hr)				14	14	
Peak Hour Factor	1.00	0.75	0.90	0.75	0.47	0.94
Heavy Vehicles (%)	2%	2%	4%	2%	2%	3%
Bus Blockages (#/hr)	0	0	3	0	0	0
Parking (#/hr)			20			20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	1381	0	0	1637
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Total Split (s)	35.0		55.0		55.0	55.0
Total Lost Time (s)	5.5		5.5			5.5
Act Effct Green (s)	9.1		80.2			80.2
Actuated g/C Ratio	0.10		0.89			0.89
v/c Ratio	0.10		0.57			0.76
Control Delay	34.9		3.9			8.6
Queue Delay	0.0		0.0			0.1
Total Delay	34.9		3.9			8.7
LOS	C		A			A
Approach Delay	34.9		3.9			8.7
Approach LOS	C		A			A
Queue Length 50th (ft)	9		8			36
Queue Length 95th (ft)	24		211			m#634
Internal Link Dist (ft)	838		310			220
Turn Bay Length (ft)						
Base Capacity (vph)	499		2405			2144
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			65
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.03		0.57			0.79

Intersection Summary

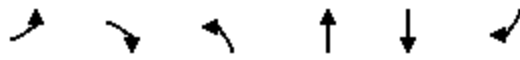
Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 6.7
 Intersection LOS: A
 Intersection Capacity Utilization 74.4%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Lorenz Avenue



Intersection Capacity Analysis
7: Seaman Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY PM PEAK HOUR

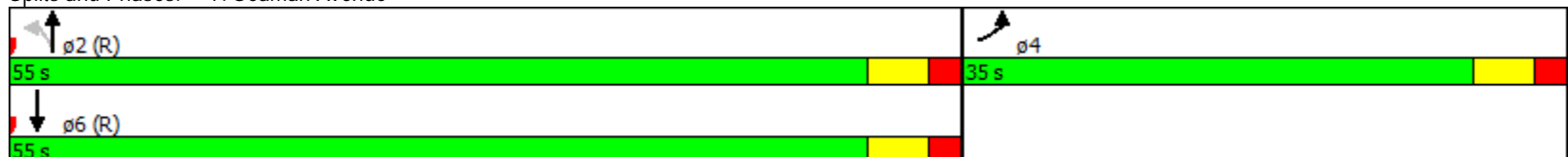


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖		↖	↑↑	↑↑	
Volume (vph)	200	85	56	1005	1163	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99		1.00		1.00	
Frt	0.959				0.986	
Flt Protected	0.966		0.950			
Satd. Flow (prot)	1491	0	1415	2702	2665	0
Flt Permitted	0.966		0.111			
Satd. Flow (perm)	1491	0	165	2702	2665	0
Right Turn on Red		No				Yes
Satd. Flow (RTOR)					19	
Link Speed (mph)	30			30	30	
Link Distance (ft)	655			360	196	
Travel Time (s)	14.9			8.2	4.5	
Confl. Peds. (#/hr)		8	14			14
Peak Hour Factor	0.80	0.79	0.88	0.95	0.89	0.93
Heavy Vehicles (%)	4%	9%	11%	4%	4%	0%
Bus Blockages (#/hr)	0	0	0	3	3	0
Parking (#/hr)				20	20	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	358	0	64	1058	1442	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Total Split (s)	35.0		55.0	55.0	55.0	
Total Lost Time (s)	5.5		5.5	5.5	5.5	
Act Effct Green (s)	25.5		53.5	53.5	53.5	
Actuated g/C Ratio	0.28		0.59	0.59	0.59	
v/c Ratio	0.85		0.66	0.66	0.91	
Control Delay	49.1		41.1	9.4	18.8	
Queue Delay	0.7		0.0	0.3	0.8	
Total Delay	49.8		41.1	9.7	19.6	
LOS	D		D	A	B	
Approach Delay	49.8			11.5	19.6	
Approach LOS	D			B	B	
Queue Length 50th (ft)	187		19	166	401	
Queue Length 95th (ft)	239		m#27	39	#557	
Internal Link Dist (ft)	575			280	116	
Turn Bay Length (ft)			200			
Base Capacity (vph)	488		97	1606	1591	
Starvation Cap Reductn	0		0	151	0	
Spillback Cap Reductn	21		0	129	32	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.77		0.66	0.73	0.92	

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 20.2
 Intersection LOS: C
 Intersection Capacity Utilization 79.2%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Seaman Avenue



Intersection Capacity Analysis
8: Seaman Avenue

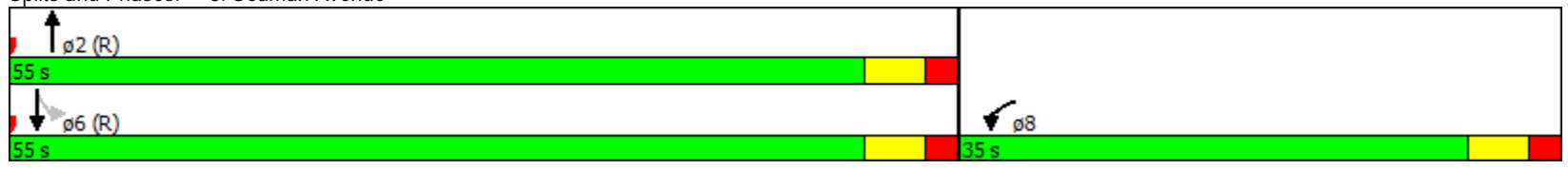
2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY PM PEAK HOUR

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗		↑↑		↖↗	↑↑
Volume (vph)	211	119	914	335	113	1035
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor	0.99		0.98			
Frt	0.948		0.958			
Flt Protected	0.970				0.950	
Satd. Flow (prot)	1525	0	2573	0	1570	2702
Flt Permitted	0.970				0.137	
Satd. Flow (perm)	1525	0	2573	0	226	2702
Right Turn on Red		No		Yes		
Satd. Flow (RTOR)			103			
Link Speed (mph)	30		30			30
Link Distance (ft)	767		196			252
Travel Time (s)	17.4		4.5			5.7
Confl. Peds. (#/hr)		3		20	20	
Peak Hour Factor	0.92	0.82	0.96	0.89	0.88	0.96
Heavy Vehicles (%)	4%	0%	3%	2%	0%	4%
Bus Blockages (#/hr)	0	0	3	0	0	3
Parking (#/hr)			20			20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	374	0	1328	0	128	1078
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Total Split (s)	35.0		55.0		55.0	55.0
Total Lost Time (s)	5.5		5.5		5.5	5.5
Act Effct Green (s)	25.8		53.2		53.2	53.2
Actuated g/C Ratio	0.29		0.59		0.59	0.59
v/c Ratio	0.86		0.85		0.96	0.68
Control Delay	49.4		14.4		73.9	8.5
Queue Delay	14.6		0.4		0.0	0.9
Total Delay	64.0		14.7		73.9	9.4
LOS	E		B		E	A
Approach Delay	64.0		14.7			16.3
Approach LOS	E		B			B
Queue Length 50th (ft)	195		90		27	87
Queue Length 95th (ft)	#320		#486		m#130	66
Internal Link Dist (ft)	687		116			172
Turn Bay Length (ft)					100	
Base Capacity (vph)	499		1562		133	1596
Starvation Cap Reductn	0		6		0	257
Spillback Cap Reductn	111		35		0	179
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.96		0.87		0.96	0.81

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 21.7
 Intersection LOS: C
 Intersection Capacity Utilization 92.1%
 ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Seaman Avenue



Intersection Capacity Analysis
 9: St Lukes Place & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
 WEEKDAY PM PEAK HOUR



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖		↖	↑↑	↑↑	
Volume (vph)	148	45	41	1020	1093	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0	75			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00		1.00		1.00	
Frt	0.964				0.981	
Flt Protected	0.965		0.950			
Satd. Flow (prot)	1554	0	1510	2718	2660	0
Flt Permitted	0.965		0.155			
Satd. Flow (perm)	1554	0	246	2718	2660	0
Right Turn on Red		No				Yes
Satd. Flow (RTOR)					28	
Link Speed (mph)	30			30	30	
Link Distance (ft)	678			252	852	
Travel Time (s)	15.4			5.7	19.4	
Confl. Peds. (#/hr)		1	9			9
Peak Hour Factor	0.85	0.70	0.61	0.88	0.93	0.79
Heavy Vehicles (%)	2%	2%	4%	4%	4%	3%
Parking (#/hr)				20	20	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	238	0	67	1159	1345	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Total Split (s)	35.0		55.0	55.0	55.0	
Total Lost Time (s)	5.5		5.5	5.5	5.5	
Act Effct Green (s)	19.1		59.9	59.9	59.9	
Actuated g/C Ratio	0.21		0.67	0.67	0.67	
v/c Ratio	0.72		0.41	0.64	0.76	
Control Delay	45.1		10.6	5.9	14.8	
Queue Delay	0.0		0.0	1.1	0.3	
Total Delay	45.1		10.6	7.0	15.1	
LOS	D		B	A	B	
Approach Delay	45.1			7.2	15.1	
Approach LOS	D			A	B	
Queue Length 50th (ft)	127		7	72	233	
Queue Length 95th (ft)	175		m14	122	416	
Internal Link Dist (ft)	598			172	772	
Turn Bay Length (ft)			75			
Base Capacity (vph)	509		163	1809	1780	
Starvation Cap Reductn	0		0	387	0	
Spillback Cap Reductn	0		0	0	96	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.47		0.41	0.82	0.80	

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 14.2
 Intersection Capacity Utilization 59.9%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: St Lukes Place & Grand Avenue



Intersection Capacity Analysis
10: Grand Avenue & High School Drive

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY PM PEAK HOUR



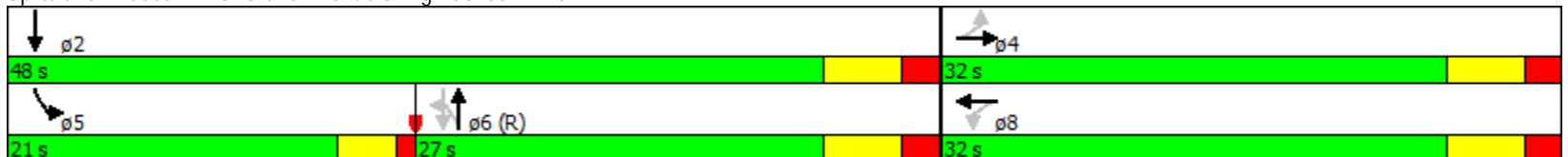
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Volume (vph)	3	0	3	68	1	41	6	1015	161	72	1284	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	150		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.96			0.96		0.99	0.99			1.00	
Frt		0.946			0.947			0.974				
Flt Protected		0.971			0.972		0.950			0.950		
Satd. Flow (prot)	0	1530	0	0	1349	0	1593	2877	0	1377	3001	0
Flt Permitted		0.810			0.809		0.201			0.950		
Satd. Flow (perm)	0	1232	0	0	1120	0	333	2877	0	1377	3001	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		95			44			29			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		564			861			852			745	
Travel Time (s)		12.8			19.6			19.4			16.9	
Confl. Peds. (#/hr)	80		4	4		80	45		24			45
Peak Hour Factor	0.25	0.92	0.38	0.64	0.25	0.57	0.38	0.91	0.70	0.74	0.95	0.50
Heavy Vehicles (%)	2%	2%	2%	20%	2%	2%	2%	2%	18%	18%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	182	0	16	1345	0	97	1356	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6				6	
Total Split (s)	32.0	32.0		32.0	32.0		27.0	27.0		21.0	48.0	
Total Lost Time (s)		6.0			6.0		6.0	6.0		4.0	6.0	
Act Effct Green (s)		17.1			17.1		38.0	38.0		10.9	50.9	
Actuated g/C Ratio		0.21			0.21		0.48	0.48		0.14	0.64	
v/c Ratio		0.06			0.66		0.10	0.97		0.52	0.71	
Control Delay		0.3			32.5		20.8	44.6		42.1	13.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.3			32.5		20.8	44.6		42.1	13.1	
LOS		A			C		C	D		D	B	
Approach Delay		0.3			32.5			44.3			15.0	
Approach LOS		A			C			D			B	
Queue Length 50th (ft)		0			65		4	328		48	180	
Queue Length 95th (ft)		0			14		9	#631		m74	270	
Internal Link Dist (ft)		484			781			772			665	
Turn Bay Length (ft)							150			200		
Base Capacity (vph)		464			393		158	1381		292	1909	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.04			0.46		0.10	0.97		0.33	0.71	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 29.2
 Intersection Capacity Utilization 90.6%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Grand Avenue & High School Drive



Intersection Capacity Analysis
11: Grand Avenue & Stowe Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY PM PEAK HOUR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Volume (vph)	98	12	176	75	14	47	193	1188	48	46	923	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	350		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.99		0.99	0.99			1.00	
Frt		0.920			0.952			0.994			0.995	
Flt Protected		0.982			0.973		0.950			0.950		
Satd. Flow (prot)	0	1483	0	0	2936	0	1510	2983	0	1496	2973	0
Flt Permitted		0.806			0.609		0.282			0.950		
Satd. Flow (perm)	0	1216	0	0	1827	0	444	2983	0	1496	2973	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		89			51			6			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		653			595			745			408	
Travel Time (s)		14.8			13.5			16.9			9.3	
Confl. Peds. (#/hr)	3		20	20		3	46		97			46
Peak Hour Factor	0.74	0.92	0.84	0.85	0.65	0.92	0.81	0.84	0.80	0.77	0.94	0.75
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	355	0	0	161	0	238	1474	0	60	1015	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6				6	
Total Split (s)	29.0	29.0		29.0	29.0		34.0	34.0		17.0	51.0	
Total Lost Time (s)		5.5			5.5		5.5	5.5		4.0	5.5	
Act Effct Green (s)		21.4			21.4		39.1	39.1		8.6	47.6	
Actuated g/C Ratio		0.27			0.27		0.49	0.49		0.11	0.60	
v/c Ratio		0.91			0.31		1.10	1.01		0.37	0.57	
Control Delay		50.0			16.6		108.4	44.4		38.4	11.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.4	
Total Delay		50.0			16.6		108.4	44.4		38.4	12.1	
LOS		D			B		F	D		D	B	
Approach Delay		50.0			16.6			53.3			13.6	
Approach LOS		D			B			D			B	
Queue Length 50th (ft)		127			21		-151	-464		31	137	
Queue Length 95th (ft)		#281			28		m#196	m#525		m33	m154	
Internal Link Dist (ft)		573			515			665			328	
Turn Bay Length (ft)							350			120		
Base Capacity (vph)		420			572		217	1461		243	1771	
Starvation Cap Reductn		0			0		0	0		0	276	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.85			0.28		1.10	1.01		0.25	0.68	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.10
 Intersection Signal Delay: 38.2
 Intersection Capacity Utilization 86.3%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service E

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Grand Avenue & Stowe Avenue



Intersection Capacity Analysis
12: Stanton Avenue & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
WEEKDAY PM PEAK HOUR

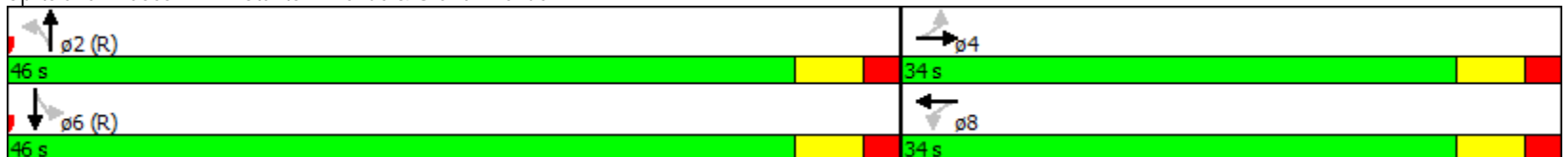


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	24	15	40	88	20	31	18	1056	99	46	1264	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.98			0.98			0.99			1.00	
Frt		0.937			0.969			0.986			0.996	
Flt Protected		0.985			0.971			0.999			0.998	
Satd. Flow (prot)	0	1517	0	0	1564	0	0	2887	0	0	2707	0
Flt Permitted		0.873			0.784			0.893			0.850	
Satd. Flow (perm)	0	1338	0	0	1243	0	0	2581	0	0	2304	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			21			19			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		666			765			408			549	
Travel Time (s)		15.1			17.4			9.3			12.5	
Confl. Peds. (#/hr)	21		26	26		21	47		116	116		47
Peak Hour Factor	0.72	0.58	0.79	0.72	0.53	0.66	0.71	0.95	0.86	0.90	0.88	0.86
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	3	0
Parking (#/hr)											20	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	110	0	0	207	0	0	1252	0	0	1525	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	34.0	34.0		34.0	34.0		46.0	46.0		46.0	46.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
Act Effct Green (s)		17.6			17.6			51.4			51.4	
Actuated g/C Ratio		0.22			0.22			0.64			0.64	
v/c Ratio		0.36			0.71			0.75			1.03	
Control Delay		23.2			38.5			8.0			49.6	
Queue Delay		0.0			0.0			0.5			0.0	
Total Delay		23.2			38.5			8.5			49.6	
LOS		C			D			A			D	
Approach Delay		23.2			38.5			8.5			49.6	
Approach LOS		C			D			A			D	
Queue Length 50th (ft)		39			86			33			-436	
Queue Length 95th (ft)		41			68			m63			#614	
Internal Link Dist (ft)		586			685			328			469	
Turn Bay Length (ft)												
Base Capacity (vph)		488			456			1663			1480	
Starvation Cap Reductn		0			0			121			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.23			0.45			0.81			1.03	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 31.3
 Intersection LOS: C
 Intersection Capacity Utilization 102.8%
 ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Stanton Avenue & Grand Avenue

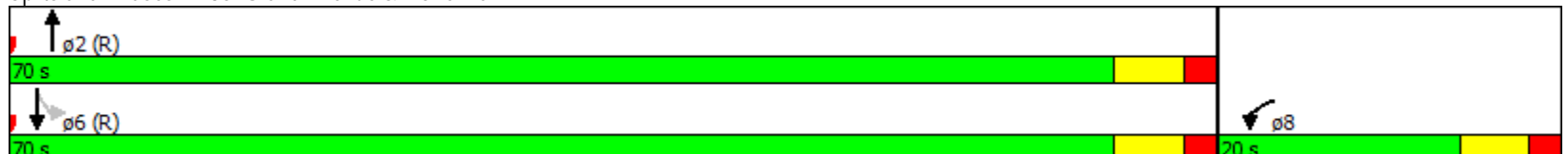


	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↑		↘	↓
Volume (vph)	50	50	786	0	283	911
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932					
Flt Protected	0.976				0.950	
Satd. Flow (prot)	1525	0	1398	0	1577	1398
Flt Permitted	0.976				0.281	
Satd. Flow (perm)	1525	0	1398	0	467	1398
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	47					
Link Speed (mph)	30		30			30
Link Distance (ft)	225		502			327
Travel Time (s)	5.1		11.4			7.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.94	0.92
Heavy Vehicles (%)	2%	2%	4%	2%	3%	4%
Parking (#/hr)			10			10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	108	0	854	0	301	990
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Total Split (s)	20.0		70.0		70.0	70.0
Total Lost Time (s)	6.0		6.0		6.0	6.0
Act Effct Green (s)	11.0		71.4		71.4	71.4
Actuated g/C Ratio	0.12		0.79		0.79	0.79
v/c Ratio	0.47		0.77		0.81	0.89
Control Delay	29.0		6.6		21.1	18.0
Queue Delay	0.1		0.5		0.0	47.1
Total Delay	29.1		7.2		21.1	65.1
LOS	C		A		C	E
Approach Delay	29.1		7.2			54.9
Approach LOS	C		A			D
Queue Length 50th (ft)	33		21		85	310
Queue Length 95th (ft)	80		m79		m#73	m#279
Internal Link Dist (ft)	145		422			247
Turn Bay Length (ft)						
Base Capacity (vph)	276		1109		370	1109
Starvation Cap Reductn	0		56		0	133
Spillback Cap Reductn	7		0		0	219
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.40		0.81		0.81	1.11

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 35.6
 Intersection Capacity Utilization 86.7%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 36: Grand Avenue & McKenna PI



Intersection Capacity Analysis
1: Merrick Road & Grand Avenue

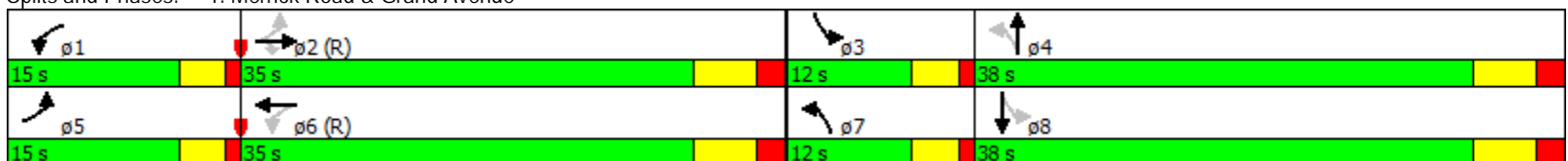
2024 BUILD CONDITIONS - OPTIMIZED
SATURDAY MIDDAY PEAK HOUR

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↖	↖	↑↑		↖	↑↑		↖	↑↑	
Volume (vph)	142	453	139	159	496	149	168	520	150	119	503	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	9	11	11	10	10	11	10	10	10
Storage Length (ft)	200		100	100		80	150		0	150		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.98		0.99			0.99			1.00	
Frt			0.850		0.969			0.964			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1501	3061	1454	1433	2931	0	1501	2564	0	1516	2534	0
Flt Permitted	0.145			0.396			0.194			0.248		
Satd. Flow (perm)	229	3061	1427	597	2931	0	307	2564	0	396	2534	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			162		33			45			36	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		687			922			603			223	
Travel Time (s)		15.6			21.0			13.7			5.1	
Confl. Peds. (#/hr)			4			10			20			5
Peak Hour Factor	0.70	0.95	0.86	0.82	0.76	0.86	0.86	0.98	0.88	0.76	0.82	0.79
Heavy Vehicles (%)	1%	2%	0%	2%	2%	2%	1%	1%	2%	0%	3%	3%
Bus Blockages (#/hr)	0	3	0	0	6	0	0	2	0	0	4	0
Parking (#/hr)								20			20	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	203	477	162	194	826	0	195	701	0	157	780	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4			8		
Total Split (s)	15.0	35.0	35.0	15.0	35.0		12.0	38.0		12.0	38.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	42.6	29.6	29.6	41.7	29.2		42.1	31.9		41.5	31.5	
Actuated g/C Ratio	0.43	0.30	0.30	0.42	0.29		0.42	0.32		0.42	0.32	
v/c Ratio	0.85	0.53	0.30	0.58	0.94		0.86	0.83		0.62	0.95	
Control Delay	53.3	32.1	6.0	24.9	53.2		53.7	39.2		28.8	53.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	53.3	32.1	6.0	24.9	53.2		53.7	39.2		28.8	53.6	
LOS	D	C	A	C	D		D	D		C	D	
Approach Delay		32.2			47.8			42.3			49.4	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	78	134	0	75	261		75	203		58	242	
Queue Length 95th (ft)	#111	186	41	112	269		#158	#287		83	#306	
Internal Link Dist (ft)		607			842			523			143	
Turn Bay Length (ft)	200		100	100			150			150		
Base Capacity (vph)	238	905	536	343	878		228	851		253	835	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.85	0.53	0.30	0.57	0.94		0.86	0.82		0.62	0.93	

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 59.5 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 43.3
 Intersection LOS: D
 Intersection Capacity Utilization 76.8%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Merrick Road & Grand Avenue



Intersection Capacity Analysis
2: Grand Avenue & Prospect Street

2024 BUILD CONDITIONS - OPTIMIZED
SATURDAY MIDDAY PEAK HOUR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4
Lane Configurations		↕			↕		↗	↘		↗	↘		
Volume (vph)	59	8	8	7	5	72	3	733	33	111	797	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	16	10	12	12	12	12	12	12	12	12	12	
Storage Length (ft)	0		0	0		0	250		0	250		0	
Storage Lanes	0		0	0		0	1		0	1		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		0.97			0.94		1.00	1.00		1.00	1.00		
Frt		0.982			0.890			0.991			0.995		
Flt Protected		0.965			0.995		0.950			0.950			
Satd. Flow (prot)	0	1790	0	0	1404	0	1593	1339	0	1593	1333	0	
Flt Permitted		0.758			0.961		0.199			0.229			
Satd. Flow (perm)	0	1372	0	0	1354	0	333	1339	0	382	1333	0	
Right Turn on Red			No			Yes			Yes			Yes	
Satd. Flow (RTOR)					89			10			3		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		602			588			484			1170		
Travel Time (s)		13.7			13.4			11.0			26.6		
Confl. Peds. (#/hr)	13		6	6		13	14		17	17		14	
Peak Hour Factor	0.68	0.50	0.50	0.58	0.63	0.81	0.75	0.91	0.65	0.82	0.91	0.90	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	1%	2%	2%	2%	2%	
Parking (#/hr)								20			20		
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	119	0	0	109	0	4	856	0	135	909	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		3			3			2			2		4
Permitted Phases	3			3			2	4		2			
Total Split (s)	18.0	18.0		18.0	18.0		52.0	52.0		52.0	52.0		25.0
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0		
Act Effct Green (s)		13.0			13.0		47.0	47.0		47.0	47.0		
Actuated g/C Ratio		0.19			0.19		0.67	0.67		0.67	0.67		
v/c Ratio		0.47			0.34		0.02	0.95		0.53	1.01		
Control Delay		32.4			11.7		4.0	33.1		15.2	48.6		
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0		
Total Delay		32.4			11.7		4.0	33.1		15.2	48.6		
LOS		C			B		A	C		B	D		
Approach Delay		32.4			11.7			33.0			44.3		
Approach LOS		C			B			C			D		
Queue Length 50th (ft)		46			7		0	277		25	-357		
Queue Length 95th (ft)		48			21		3	#581		63	#640		
Internal Link Dist (ft)		522			508			404			1090		
Turn Bay Length (ft)							250			250			
Base Capacity (vph)		254			323		223	902		256	896		
Starvation Cap Reductn		0			0		0	0		0	0		
Spillback Cap Reductn		0			0		0	0		0	0		
Storage Cap Reductn		0			0		0	0		0	0		
Reduced v/c Ratio		0.47			0.34		0.02	0.95		0.53	1.01		

Intersection Summary

Area Type: CBD
 Cycle Length: 95
 Actuated Cycle Length: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 37.4
 Intersection Capacity Utilization 80.9%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Grand Avenue & Prospect Street



Intersection Capacity Analysis
3: Sunrise Highway & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
SATURDAY MIDDAY PEAK HOUR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Volume (vph)	214	1292	88	252	1179	75	71	548	244	123	551	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	10	10	10	10	10	10
Storage Length (ft)	300		0	400		0	250		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.990			0.990			0.954			0.967	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1608	4369	0	1577	4491	0	1516	2816	0	1472	2835	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1608	4369	0	1577	4491	0	1516	2816	0	1472	2835	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)		10			10							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1155			1126			303			301	
Travel Time (s)		26.3			25.6			6.9			6.8	
Confl. Peds. (#/hr)			5			3			11			14
Peak Hour Factor	0.84	0.95	0.88	0.90	0.97	0.85	0.88	0.92	0.94	0.76	0.93	0.81
Heavy Vehicles (%)	1%	6%	1%	3%	3%	0%	0%	2%	1%	3%	2%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	2	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	255	1460	0	280	1303	0	81	856	0	162	762	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Total Split (s)	23.0	49.0		23.0	49.0		14.0	39.0		14.0	39.0	
Total Lost Time (s)	5.0	8.4		5.0	8.4		5.0	7.0		5.0	7.0	
Act Effct Green (s)	18.0	40.6		18.0	40.6		8.8	32.0		9.0	32.2	
Actuated g/C Ratio	0.14	0.32		0.14	0.32		0.07	0.26		0.07	0.26	
v/c Ratio	1.10	1.02		1.23	0.89		0.76	1.19		1.54	1.04	
Control Delay	138.9	71.6		181.5	48.5		97.5	139.5		323.9	90.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	138.9	71.6		181.5	48.5		97.5	139.5		323.9	90.2	
LOS	F	E		F	D		F	F		F	F	
Approach Delay		81.6			72.0			135.8			131.2	
Approach LOS		F			E			F			F	
Queue Length 50th (ft)	~234	~458		~280	363		65	~438		~183	~353	
Queue Length 95th (ft)	#365	#556		#456	428		#145	#568		#261	#479	
Internal Link Dist (ft)		1075			1046			223			221	
Turn Bay Length (ft)	300			400			250			250		
Base Capacity (vph)	231	1425		227	1465		109	720		105	730	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.10	1.02		1.23	0.89		0.74	1.19		1.54	1.04	

Intersection Summary

Area Type: CBD
 Cycle Length: 125
 Actuated Cycle Length: 125
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.54
 Intersection Signal Delay: 97.4
 Intersection LOS: F
 Intersection Capacity Utilization 104.1%
 ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Sunrise Highway & Grand Avenue



Intersection Capacity Analysis
4: Grand Avenue & Baldwin Avenue/Miller Place

2024 BUILD CONDITIONS - OPTIMIZED
SATURDAY MIDDAY PEAK HOUR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖		↗	↖	
Volume (vph)	27	10	31	10	8	11	11	824	11	6	898	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.98		1.00	1.00		1.00	1.00	
Frt		0.928			0.955			0.997			0.995	
Flt Protected		0.985			0.983		0.950			0.950		
Satd. Flow (prot)	0	1506	0	0	1551	0	1608	1326	0	1608	1323	0
Flt Permitted		0.877			0.774		0.144			0.213		
Satd. Flow (perm)	0	1341	0	0	1217	0	244	1326	0	360	1323	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		55			17			2			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		721			584			657			510	
Travel Time (s)		16.4			13.3			14.9			11.6	
Confl. Peds. (#/hr)			4	5		4	8		11	11		8
Peak Hour Factor	0.78	0.56	0.52	0.56	0.50	0.63	0.63	0.96	0.63	0.75	0.93	0.56
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	2%	1%	1%	2%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	2	0
Parking (#/hr)								20			20	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	113	0	0	51	0	17	875	0	8	1000	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			2			1			1	
Permitted Phases	3			2			1			1		
Total Split (s)	22.0	22.0		13.0	13.0		55.0	55.0		55.0	55.0	
Total Lost Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Act Effct Green (s)		9.8			7.0		64.8	64.8		64.8	64.8	
Actuated g/C Ratio		0.11			0.08		0.72	0.72		0.72	0.72	
v/c Ratio		0.58			0.46		0.10	0.92		0.03	1.05	
Control Delay		32.5			43.1		10.0	33.3		7.5	58.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		32.5			43.1		10.0	33.3		7.5	58.0	
LOS		C			D		A	C		A	E	
Approach Delay		32.5			43.1			32.8			57.6	
Approach LOS		C			D			C			E	
Queue Length 50th (ft)		32			19		4	-547		1	-690	
Queue Length 95th (ft)		35			25		10	#832		m2	#979	
Internal Link Dist (ft)		641			504			577			430	
Turn Bay Length (ft)							200			200		
Base Capacity (vph)		290			117		175	955		259	953	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.39			0.44		0.10	0.92		0.03	1.05	

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 45.2
 Intersection Capacity Utilization 69.9%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service C

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Grand Avenue & Baldwin Avenue/Miller Place



Intersection Capacity Analysis
5: Milburn Avenue

2024 BUILD CONDITIONS - OPTIMIZED
SATURDAY MIDDAY PEAK HOUR

	↑	↶	↷	↓	↶	↷
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↑↑			↑↑		↶
Volume (vph)	812	1	0	1108	0	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor	1.00					
Frt	0.999					0.865
Flt Protected						
Satd. Flow (prot)	2795	0	0	2755	0	1436
Flt Permitted						
Satd. Flow (perm)	2795	0	0	2755	0	1436
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	30			30	30	
Link Distance (ft)	329			379	335	
Travel Time (s)	7.5			8.6	7.6	
Confl. Peds. (#/hr)		14	14			2
Peak Hour Factor	0.88	0.25	0.88	0.91	0.81	0.81
Heavy Vehicles (%)	1%	2%	1%	2%	1%	3%
Bus Blockages (#/hr)	0	0	0	3	0	0
Parking (#/hr)	20			20		
Shared Lane Traffic (%)						
Lane Group Flow (vph)	927	0	0	1218	0	301
Turn Type	NA			NA		Prot
Protected Phases	2			6		8
Permitted Phases				2		
Total Split (s)	56.0			56.0		34.0
Total Lost Time (s)	6.0			6.0		6.0
Act Effct Green (s)	54.1			54.1		23.9
Actuated g/C Ratio	0.60			0.60		0.27
v/c Ratio	0.55			0.74		0.79
Control Delay	9.5			8.7		46.0
Queue Delay	0.5			0.3		0.0
Total Delay	10.0			8.9		46.0
LOS	B			A		D
Approach Delay	10.0			8.9		
Approach LOS	B			A		
Queue Length 50th (ft)	107			95		159
Queue Length 95th (ft)	160			174		208
Internal Link Dist (ft)	249			299	255	
Turn Bay Length (ft)						
Base Capacity (vph)	1680			1656		446
Starvation Cap Reductn	324			84		0
Spillback Cap Reductn	35			0		0
Storage Cap Reductn	0			0		0
Reduced v/c Ratio	0.68			0.77		0.67

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBSB and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 13.9
 Intersection Capacity Utilization 52.0%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 5: Milburn Avenue



Intersection Capacity Analysis
6: Lorenz Avenue

2024 BUILD CONDITIONS - OPTIMIZED
SATURDAY MIDDAY PEAK HOUR



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑			↔↑
Volume (vph)	19	8	1214	11	11	1188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99		1.00			1.00
Frt	0.953		0.998			
Flt Protected	0.968					0.999
Satd. Flow (prot)	1532	0	2775	0	0	2768
Flt Permitted	0.968					0.934
Satd. Flow (perm)	1532	0	2775	0	0	2588
Right Turn on Red		No		Yes		
Satd. Flow (RTOR)			2			
Link Speed (mph)	30		30			30
Link Distance (ft)	918		379			300
Travel Time (s)	20.9		8.6			6.8
Confl. Peds. (#/hr)		12		14	14	
Peak Hour Factor	0.64	0.50	0.89	0.63	0.83	0.95
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	3	0	0	0
Parking (#/hr)			20			20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	0	1381	0	0	1264
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Total Split (s)	34.0		56.0		56.0	56.0
Total Lost Time (s)	5.5		5.5			5.5
Act Effct Green (s)	10.1		75.9			75.9
Actuated g/C Ratio	0.11		0.84			0.84
v/c Ratio	0.27		0.59			0.58
Control Delay	38.2		4.7			2.8
Queue Delay	0.0		0.0			0.1
Total Delay	38.2		4.7			2.8
LOS	D		A			A
Approach Delay	38.2		4.7			2.8
Approach LOS	D		A			A
Queue Length 50th (ft)	25		95			46
Queue Length 95th (ft)	35		189			91
Internal Link Dist (ft)	838		299			220
Turn Bay Length (ft)						
Base Capacity (vph)	485		2340			2182
Starvation Cap Reductn	0		15			103
Spillback Cap Reductn	0		1			21
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.09		0.59			0.61

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 4.4
 Intersection Capacity Utilization 63.1%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 6: Lorenz Avenue



Intersection Capacity Analysis
7: Seaman Avenue

2024 BUILD CONDITIONS - OPTIMIZED
SATURDAY MIDDAY PEAK HOUR

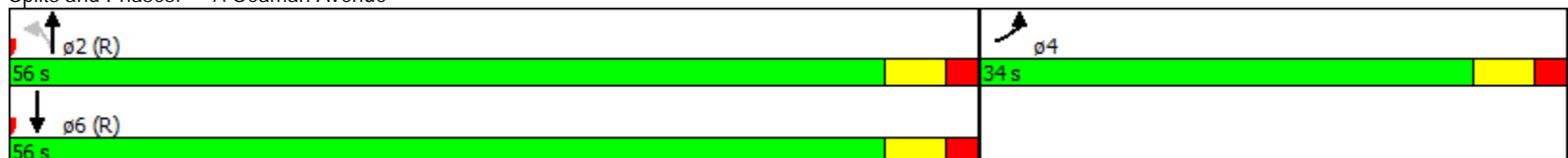


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖		↗	↑↑	↑↑	
Volume (vph)	131	66	39	1134	1120	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99		1.00		1.00	
Frt	0.954				0.988	
Flt Protected	0.968		0.950			
Satd. Flow (prot)	1544	0	1525	2787	2717	0
Flt Permitted	0.968		0.162			
Satd. Flow (perm)	1544	0	260	2787	2717	0
Right Turn on Red		No				Yes
Satd. Flow (RTOR)					16	
Link Speed (mph)	30			30	30	
Link Distance (ft)	655			360	196	
Travel Time (s)	14.9			8.2	4.5	
Confl. Peds. (#/hr)		12	15			15
Peak Hour Factor	0.77	0.76	0.71	0.92	0.93	0.89
Heavy Vehicles (%)	1%	2%	3%	1%	2%	1%
Bus Blockages (#/hr)	0	0	0	2	3	0
Parking (#/hr)				20	20	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	257	0	55	1233	1305	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Total Split (s)	34.0		56.0	56.0	56.0	
Total Lost Time (s)	5.5		5.5	5.5	5.5	
Act Effct Green (s)	20.2		58.8	58.8	58.8	
Actuated g/C Ratio	0.22		0.65	0.65	0.65	
v/c Ratio	0.74		0.33	0.68	0.73	
Control Delay	45.1		8.4	7.3	7.0	
Queue Delay	0.0		0.0	0.6	0.1	
Total Delay	45.1		8.4	7.9	7.1	
LOS	D		A	A	A	
Approach Delay	45.1			7.9	7.1	
Approach LOS	D			A	A	
Queue Length 50th (ft)	136		7	177	91	
Queue Length 95th (ft)	162		m7	54	86	
Internal Link Dist (ft)	575			280	116	
Turn Bay Length (ft)			200			
Base Capacity (vph)	488		169	1821	1781	
Starvation Cap Reductn	0		0	102	55	
Spillback Cap Reductn	0		0	240	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.53		0.33	0.78	0.76	

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 10.9
 Intersection LOS: B
 Intersection Capacity Utilization 61.0%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Seaman Avenue



Intersection Capacity Analysis
8: Seaman Avenue

2024 BUILD CONDITIONS - OPTIMIZED
SATURDAY MIDDAY PEAK HOUR

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↑↑		↘	↑↑
Volume (vph)	128	121	1115	161	116	1067
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor			0.99			
Frt	0.933		0.980			
Flt Protected	0.976				0.950	
Satd. Flow (prot)	1549	0	2714	0	1555	2749
Flt Permitted	0.976				0.144	
Satd. Flow (perm)	1549	0	2714	0	236	2749
Right Turn on Red		No		Yes		
Satd. Flow (RTOR)			31			
Link Speed (mph)	30		30			30
Link Distance (ft)	767		196			252
Travel Time (s)	17.4		4.5			5.7
Confl. Peds. (#/hr)				13	13	
Peak Hour Factor	0.88	0.84	0.95	0.88	0.80	0.92
Heavy Vehicles (%)	0%	1%	1%	1%	1%	2%
Bus Blockages (#/hr)	0	0	2	0	0	4
Parking (#/hr)			20			20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	289	0	1357	0	145	1160
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Total Split (s)	34.0		56.0		56.0	56.0
Total Lost Time (s)	5.5		5.5		5.5	5.5
Act Effct Green (s)	21.7		57.3		57.3	57.3
Actuated g/C Ratio	0.24		0.64		0.64	0.64
v/c Ratio	0.77		0.78		0.97	0.66
Control Delay	45.5		11.5		71.2	6.7
Queue Delay	0.0		0.3		0.0	0.6
Total Delay	45.5		11.7		71.2	7.4
LOS	D		B		E	A
Approach Delay	45.5		11.7			14.5
Approach LOS	D		B			B
Queue Length 50th (ft)	153		207		26	35
Queue Length 95th (ft)	215		#104		m#79	73
Internal Link Dist (ft)	687		116			172
Turn Bay Length (ft)					100	
Base Capacity (vph)	490		1737		150	1748
Starvation Cap Reductn	0		65		0	252
Spillback Cap Reductn	0		0		0	37
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.59		0.81		0.97	0.78

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 16.2
 Intersection LOS: B
 Intersection Capacity Utilization 86.7%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Seaman Avenue



Intersection Capacity Analysis
 9: St Lukes Place & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
 SATURDAY MIDDAY PEAK HOUR



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖		↗	↑↑	↑↑	
Volume (vph)	114	29	27	1191	1204	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Storage Length (ft)	0	0	75			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00		1.00		1.00	
Frt	0.974				0.985	
Flt Protected	0.961		0.950			
Satd. Flow (prot)	1565	0	1555	2799	2721	0
Flt Permitted	0.961		0.147			
Satd. Flow (perm)	1565	0	240	2799	2721	0
Right Turn on Red		No				Yes
Satd. Flow (RTOR)					22	
Link Speed (mph)	30			30	30	
Link Distance (ft)	678			252	852	
Travel Time (s)	15.4			5.7	19.4	
Confl. Peds. (#/hr)		1	14			14
Peak Hour Factor	0.79	0.84	0.69	0.90	0.94	0.73
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Parking (#/hr)				20	20	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	179	0	39	1323	1425	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Total Split (s)	34.0		56.0	56.0	56.0	
Total Lost Time (s)	5.5		5.5	5.5	5.5	
Act Effct Green (s)	15.6		63.4	63.4	63.4	
Actuated g/C Ratio	0.17		0.70	0.70	0.70	
v/c Ratio	0.66		0.23	0.67	0.74	
Control Delay	46.0		5.4	4.1	12.1	
Queue Delay	0.0		0.0	0.4	0.1	
Total Delay	46.0		5.4	4.5	12.3	
LOS	D		A	A	B	
Approach Delay	46.0			4.5	12.3	
Approach LOS	D			A	B	
Queue Length 50th (ft)	96		2	55	221	
Queue Length 95th (ft)	129		m6	110	394	
Internal Link Dist (ft)	598			172	772	
Turn Bay Length (ft)			75			
Base Capacity (vph)	495		169	1972	1924	
Starvation Cap Reductn	0		0	240	0	
Spillback Cap Reductn	0		0	0	64	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.36		0.23	0.76	0.77	

Intersection Summary

Area Type: CBD
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 10.8
 Intersection LOS: B
 Intersection Capacity Utilization 59.2%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: St Lukes Place & Grand Avenue



Intersection Capacity Analysis
10: Grand Avenue & High School Drive

2024 BUILD CONDITIONS - OPTIMIZED
SATURDAY MIDDAY PEAK HOUR

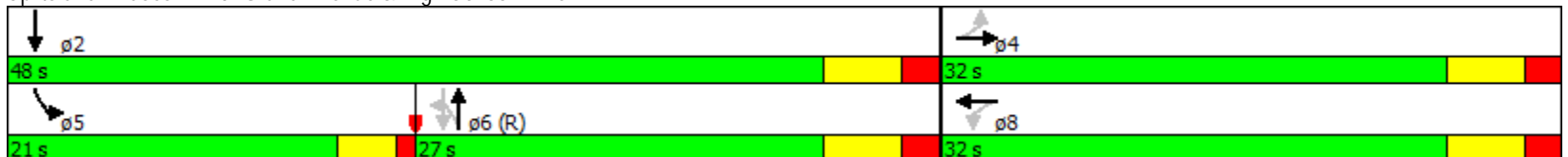


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Volume (vph)	3	0	5	34	0	14	5	1284	25	14	1241	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	150		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		0.99	1.00			1.00	
Frt		0.932			0.952			0.995			0.999	
Flt Protected		0.976			0.969		0.950			0.950		
Satd. Flow (prot)	0	1525	0	0	1525	0	1608	3075	0	1577	3050	0
Flt Permitted		0.842			0.796		0.208			0.950		
Satd. Flow (perm)	0	1300	0	0	1253	0	349	3075	0	1577	3050	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		95			95			4			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		564			861			852			745	
Travel Time (s)		12.8			19.6			19.4			16.9	
Confl. Peds. (#/hr)	27					27	25		21			25
Peak Hour Factor	0.38	0.50	0.63	0.73	0.55	0.54	0.31	0.98	0.55	0.65	0.96	0.58
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	2%	3%	2%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	4	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	73	0	16	1355	0	22	1305	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6				6	
Total Split (s)	32.0	32.0		32.0	32.0		27.0	27.0		21.0	48.0	
Total Lost Time (s)		6.0			6.0		6.0	6.0		4.0	6.0	
Act Effct Green (s)		12.8			12.8		54.8	54.8		6.7	59.6	
Actuated g/C Ratio		0.16			0.16		0.68	0.68		0.08	0.74	
v/c Ratio		0.06			0.26		0.07	0.64		0.17	0.57	
Control Delay		0.4			5.8		12.2	14.8		35.7	8.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.4			5.8		12.2	14.8		35.7	8.8	
LOS		A			A		B	B		D	A	
Approach Delay		0.4			5.8			14.8			9.3	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0			0		2	141		11	151	
Queue Length 95th (ft)		0			0		6	#548		m18	234	
Internal Link Dist (ft)		484			781			772			665	
Turn Bay Length (ft)							150			200		
Base Capacity (vph)		486			471		239	2108		335	2272	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.03			0.15		0.07	0.64		0.07	0.57	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 11.8
 Intersection Capacity Utilization 65.6%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Grand Avenue & High School Drive



Intersection Capacity Analysis
11: Grand Avenue & Stowe Avenue

2024 BUILD CONDITIONS - OPTIMIZED
SATURDAY MIDDAY PEAK HOUR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Volume (vph)	44	18	31	115	12	205	47	1156	54	219	1196	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	350		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.98		1.00	1.00			1.00	
Frt		0.948			0.907			0.993			0.994	
Flt Protected		0.981			0.984		0.950			0.950		
Satd. Flow (prot)	0	1540	0	0	2805	0	1540	3079	0	1555	3058	0
Flt Permitted		0.580			0.766		0.209			0.950		
Satd. Flow (perm)	0	908	0	0	2173	0	337	3079	0	1555	3058	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			233		7			9		
Link Speed (mph)		30			30		30			30		
Link Distance (ft)		653			595		745			408		
Travel Time (s)		14.8			13.5		16.9			9.3		
Confl. Peds. (#/hr)	8		17	17		8	29		23			29
Peak Hour Factor	0.68	0.47	0.48	0.92	0.69	0.88	0.92	0.94	0.91	0.95	0.95	0.73
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	1%	2%	1%	2%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	168	0	0	375	0	51	1289	0	231	1314	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6				6	
Total Split (s)	29.0	29.0		29.0	29.0		34.0	34.0		17.0	51.0	
Total Lost Time (s)		5.5			5.5		5.5	5.5		4.0	5.5	
Act Effct Green (s)		14.4			14.4		34.0	34.0		16.6	54.6	
Actuated g/C Ratio		0.18			0.18		0.42	0.42		0.21	0.68	
v/c Ratio		0.86			0.64		0.36	0.98		0.72	0.63	
Control Delay		58.8			16.0		17.6	39.1		45.4	9.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.4	
Total Delay		58.8			16.0		17.6	39.1		45.4	9.5	
LOS		E			B		B	D		D	A	
Approach Delay		58.8			16.0			38.3			14.9	
Approach LOS		E			B			D			B	
Queue Length 50th (ft)		63			33		18	-378		123	143	
Queue Length 95th (ft)		44			35		m14	#510		m144	m205	
Internal Link Dist (ft)		573			515			665			328	
Turn Bay Length (ft)							350			120		
Base Capacity (vph)		294			802		143	1311		323	2089	
Starvation Cap Reductn		0			0		0	0		0	325	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.57			0.47		0.36	0.98		0.72	0.74	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 26.3
 Intersection LOS: C
 Intersection Capacity Utilization 97.1%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Grand Avenue & Stowe Avenue



Intersection Capacity Analysis
12: Stanton Avenue & Grand Avenue

2024 BUILD CONDITIONS - OPTIMIZED
SATURDAY MIDDAY PEAK HOUR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	36	7	38	83	14	44	50	1173	123	40	1271	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.98			0.98			1.00			1.00	
Frt		0.935			0.953			0.981			0.994	
Flt Protected		0.978			0.973			0.998			0.998	
Satd. Flow (prot)	0	1514	0	0	1539	0	0	3007	0	0	2729	0
Flt Permitted		0.784			0.790			0.744			0.814	
Satd. Flow (perm)	0	1206	0	0	1241	0	0	2241	0	0	2226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			33			28			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		666			765			408			549	
Travel Time (s)		15.1			17.4			9.3			12.5	
Confl. Peds. (#/hr)	15		12	12		15	30		19	19		30
Peak Hour Factor	0.71	0.88	0.69	0.93	0.81	0.79	0.65	0.92	0.64	0.79	0.96	0.70
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	1%	2%	1%	2%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	3	0
Parking (#/hr)											20	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	114	0	0	162	0	0	1544	0	0	1434	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	34.0	34.0		34.0	34.0		46.0	46.0		46.0	46.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
Act Effct Green (s)		13.9			13.9			55.1			55.1	
Actuated g/C Ratio		0.17			0.17			0.69			0.69	
v/c Ratio		0.49			0.67			0.99			0.93	
Control Delay		28.7			37.0			31.3			26.2	
Queue Delay		0.0			0.0			14.1			0.0	
Total Delay		28.7			37.0			45.5			26.2	
LOS		C			D			D			C	
Approach Delay		28.7			37.0			45.5			26.2	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)		39			60			164			276	
Queue Length 95th (ft)		77			96			m#526			#557	
Internal Link Dist (ft)		586			685			328			469	
Turn Bay Length (ft)												
Base Capacity (vph)		447			463			1552			1536	
Starvation Cap Reductn		0			0			70			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.26			0.35			1.04			0.93	

Intersection Summary

Area Type: CBD
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 36.0 Intersection LOS: D
 Intersection Capacity Utilization 105.4% ICU Level of Service G
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Stanton Avenue & Grand Avenue

